

**STRANGE CORNERS
OF THE WORLD**

BY

J. E. WETHERELL

68 J.

THE D F O R D
P U B L I C L I B R A R Y

No. 68 J.

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STRANGE CORNERS OF THE WORLD

BY

J. E. WETHERELL

Author of "Fields of Fame," etc.

ILLUSTRATED

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PREFACE

OF THE strange corners described in this book about half are remote from the common routes of travel, and nearly all are remote from the great centres of population. Asia claims eight and the distant islands of the sea claim seven of the thirty chapters. Even in Europe, with its ancient highways and old civilization, strange places and peoples are found.

These chapters are bound together by no link other than that suggested by the title. The reader may begin in whatever corner he desires, even if it be the very last. It would have been easy to arrange the chapters according to countries or continents or oceans, or according to the nature of the subject, but such a classification would have served no useful purpose and would in some ways have defeated itself.

The author of these sketches has had recourse to hundreds of sources in collecting his materials, and a general acknowledgment is here made to all who have contributed even a mite to aid him in his task. In several cases, for special reasons, individual mention has been made of author and publisher.

J. E. W.

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THE ISLAND WITH A SECRET

THE island of this chapter is far from all the routes followed by the ships of the nations. Indeed, it is two thousand miles from any continent. It was discovered on Easter Day, 1722, and so has been known for two centuries as "Easter Island." Its secret, however, is still unsolved, although many travellers have worked hard at the mystery, one of them even staying in the island for three years in search of a clue.

The discoverer of the island was a Dutch admiral, Roggeveen. Fifty years later it was annexed to Spain by Admiral Gonzales. Since 1888 it has belonged to Chile.

The island has to-day only a hundred and fifty inhabitants, although when it was discovered there were, it is supposed, many thousand people there. It is puzzling to find that among the few survivors there are two different races represented,—one black, and one brown—the former like the people of Melanesia, the islands of the western Pacific,—the other like the Polynesians, who dwell in the archipelago farther east. But this difference of race, though very strange, is not the main riddle of the island.

Before approaching the great mystery it will be well for us to fix the exact position of Easter Island and to examine its chief natural features. Then we shall be better prepared to make a guess at the problem to be solved. If you have before you a map of the Pacific Ocean, you will see Robinson Crusoe's island, one of the Juan Fernandez group, about four hundred miles out in the Ocean, west of Valparaiso. Four times as far from

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Chile you must look to find the island of our quest. It is triangular in shape, thirteen miles on its longest side, and seven miles on its shortest. It has no natural harbor and so is very difficult to approach. It has been a volcanic island, for three main peaks, one 1,700 feet high, and scores of smaller peaks, still show their cones and craters. Indeed, the curious stones of the island are all remnants of the lava which poured from these elevations many ages ago. The craters of some of these extinct volcanoes are to-day little lakes full of kindly water.

The inhabitants are divided sharply into two sections, living at different ends of the island. One class, the darker, have long lobes on their ears, reaching down almost to their shoulders. This connects them with the dark people of Melanesia. The other class are much lighter in color and have normal ears. Both classes are handsome and have attractive manners, although their voices are oddly harsh.

There are no trees on the island; only ferns, shrubs, and grasses grow there. There is no running water, but the excessive moisture, and the crater-lakes, supply all the needs of the few people. The soil in many spots is quite fertile. Sweet potatoes, sugar cane, and fig trees thrive on one side of the island. Bananas, too, are cultivated in the shelter of artificial pits. The few animals of the island are goats and pigs. Some scraggy specimens of poultry may be seen. A company from Chile and another from Tahiti breed cattle and sheep in the island, as many as 2,000 head of cattle and 12,000 sheep. The climate of Easter Island is as nearly perfect as any place in the world.

There have been strange doings in this remote place

since it was first discovered. The people appear to have been originally of only one race, and to have numbered between 2,000 and 20,000. It is recorded that in 1863 a large part of the population was kidnapped by Peruvians and led away into captivity. About a half century ago a Jesuit mission reached the island and converted the remaining natives to the Christian faith.



STATUES ON EASTER ISLAND.

Now we are ready to wander over the island and to see the amazing statues, the stone platforms, the stone houses, and the stone quarries, which for two hundred years have baffled the wisdom and efforts of investigators.

All around the coast are seen great platforms of huge stones, facing the sea. Each platform, or terrace, is thirty feet high and from two hundred to three hundred feet long.

On the island, there are also at least a hundred stone

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houses, built without mortar, each about a hundred feet by twenty feet in size. These houses are lined with upright slabs painted with geometrical figures and pictures of animals. On these slabs and other wooden tablets of great age can be seen hieroglyphic carvings, and writings in a strange script, different from any found elsewhere in the Pacific islands.

All over the island are scattered numerous images, more than five hundred, carved out of grey lava. Most of these images are now overturned, but the travellers of old days found them standing, some five to ten feet high, many even thirty feet high. The backs of these statues are flat and covered with pictures and picture writing. The faces of the images are strangely alike and are Melanesian rather than Polynesian in appearance. The ears are Melanesian, with the long heavy lobes. Many of these images used to be situated on the top of the burial platforms, but the great majority of them were on the island slopes, and were very conspicuous to ships drawing near. Several groups of these statues are almost covered with the sandy soil which the winds of centuries have deposited about them. These buried statues are still erect. The figures are all half-length. Near the bottom the hands come together and almost, but not quite, meet. A perfect specimen of one of these statues can be seen in the British Museum.

There are several quarries, or workshops, in the island, in which these gigantic statues appear to have been made. At least a hundred and fifty of them in all stages of completion, lie about in these old caves. Stone tools, hammers and chisels, are found on the ground, as if thrown down in a hurry in the very midst of a busy day's work.

The great secret, then, is—Who made these statues?—Why?—and When? The mystery of Stonehenge is less perplexing than this mystery of the Pacific Ocean. Stonehenge in recent years has been gradually unfolding its wonders and divulging its secrets, but Easter Island is as much an unsolved riddle as ever.

It is fairly well agreed among travellers and antiquarians that these images are burial stones, either in honor of gods worshipped in the island, or as symbols of respect to dead rulers and warriors. It is also agreed that many hundreds of workmen must once have toiled in these quarries. Why did they cease to toil? And why so suddenly?

There are two theories to account for the strange situation. One is, that the inhabitants were suddenly disturbed and overpowered by an invading enemy. The presence of the remnants of two different races in the island would seem to favor that idea. Indeed, there is a tradition of just such a catastrophe as this.

The theory which receives the latest support is a very different one. It is suggested that Easter Island is the only survivor of an immense archipelago, which centuries ago was entirely submerged by an oceanic disturbance of some kind. Easter Island was, by that theory, the centre of the lost archipelago and the mausoleum of the whole group, engaging at one time no fewer than 10,000 craftsmen. There is, to favor this conjecture, a well-established tradition among the long-eared class of the islanders, that west of Easter Island once existed many other islands which the sea one day swallowed up. Indeed, the native name of Easter Island, namely, *Rano Raraku*, means "The navel of the world."

WHERE THE DAY IS A WHOLE YEAR LONG

FOR a century or more a long succession of explorers sacrificed ease and fortune in an endeavor to reach that point in the north where all the meridians of longitude meet. Captain Parry in 1827 was sent out under the auspices of the Royal Society of England. He reached $82^{\circ}45'$. That record was not beaten for forty-eight years. Dr. Kane, an American, in 1855 reached $81^{\circ}22'$. Captain Nares, despatched by the British Government, in 1875, reached latitude $83^{\circ}7'$. Dr. Nansen, a Norwegian, in 1895, reached $85^{\circ}55'$. Commander Peary of the American navy, after several unsuccessful ventures, finally reached the goal of his desires in April, 1909.

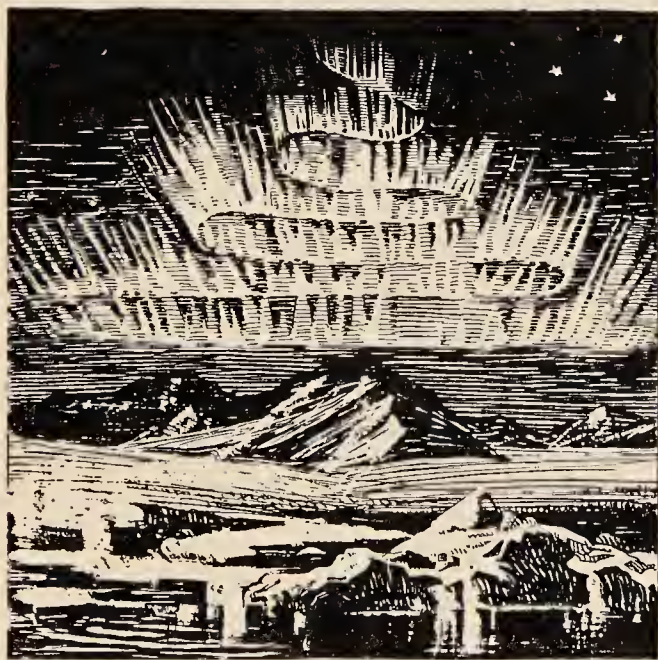
Let us now examine the strange conditions which obtain in that inhospitable spot. And first let us try to picture the movements of the sun.

At the North Pole there is neither north, nor east, nor west. Every direction is south! In front of you, behind you, on every side of you, it is south! If you were to walk only a rod away from the point called the pole, you would recover at once the three lost points of north and east and west; but at the exact point which terminates the axis of the earth the cardinal points are reduced to one. It is difficult to realize that every wind that blows (and tempests must often rage here), every zephyr that disturbs the polar quiet, comes out of the south, and that is not to say that they are balmy.

In this strange spot, where all latitude ceases, and

WHERE THE DAY IS A WHOLE YEAR LONG 7

where all lines of longitude merge, there is only one day and one night in the year. On June 21st the sun is $23^{\circ}30'$ above the horizon, and it moves in a circle at that height during the twenty-four hours. By July 1st the sun has sunk to 21° above the horizon, but it still circles at that height during the twenty-four hours. Slowly, day by day,



THE AURORA BOREALIS.

the bright globe descends, till on September 20th it rolls around the horizon like a golden plate. On September 21st only the upper disc of the orb is visible. For one day, and one day only, a half-sun lightens the icy plains. On September 22nd begins the long night of six months. For many days, however, indeed, for nearly fifty days the twilight remains, for there is not absolute darkness till

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the sun is eighteen degrees below the horizon. Then Cimmerian darkness reigns. At this time the stars are moving in similar circles around the sky, never setting and never rising, but moving in horizontal courses. These northern stars, however, with the exception of the planets, keep a uniform altitude forever.

At the winter solstice, December 21st, the polar darkness reaches its greatest intensity. No one has ever experienced it, and it is almost certain that no one will ever be fool-hardy enough to attempt to visit the Pole in mid-winter. The sun on that date is $23^{\circ}30'$ below the horizon, circling about in horizontal curves, as if he had abandoned forever the deserted Pole. By February the pale polar twilight begins again, and on March 21st the disc of the sun peeps over the edge of the polar expanse and promises each day to move higher.

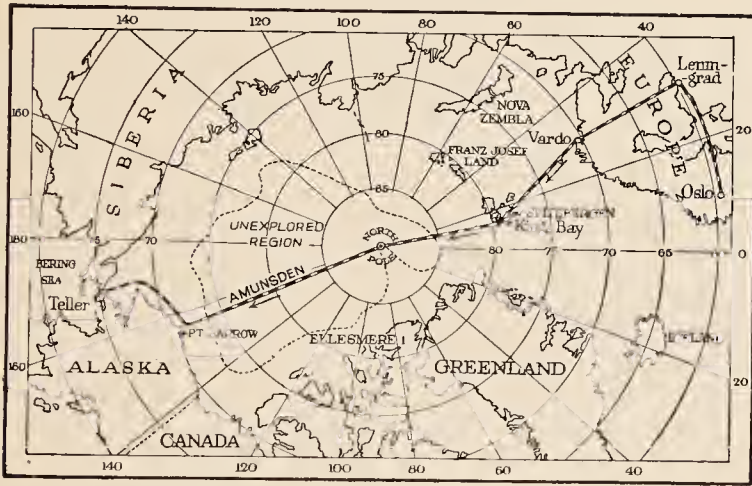
If you were at the Pole and inspected your mariners' compass, it would perplex you perhaps. There is no south, of course, for every direction is south, but you see the needle pointing down towards Canada, as if suggesting that you had better return quickly the way you came. Fifteen hundred miles away is the Magnetic Pole in Boothia Peninsula, summoning you thither.

At the Pole there is literally no time, as the sun does not rise and set with the diurnal revolutions of the earth upon its axis, making the evening and the morning one day. One day at the Pole is 365 days long as we measure time, sunlight beaming for 182 of our days, daylight lasting for 275 of our days, darkness settling down for from 65 to 90 of our days, according to the conditions of the winter atmosphere.

A word or two as to the temperatures at the Pole. In

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midwinter no one, of course, has yet measured the cold, and perhaps a special instrument would be needed to mark the low record. At midsummer the heat of the sun must be considerable and the ice must be partially melted. One thing must be remembered with respect to temperatures here. For the whole twenty-four hours, whether in summer or in winter, the temperature is uniform, since the sun moves in horizontal circles and there



AMUNDSEN'S FLIGHT ACROSS THE POLE.

is nothing to interfere with the uniformity of heat and cold. All changes of heat and cold are very gradual, and are measured by long periods of time. It is true that the "south wind" may make a difference, but that difference will not be related in any way to what we call day and night.

The shadows which are cast at the Pole have uncanny features. If you were standing there in April, your shadow would be hundreds of feet long, of course. At midsummer day it would still be about as long as it is

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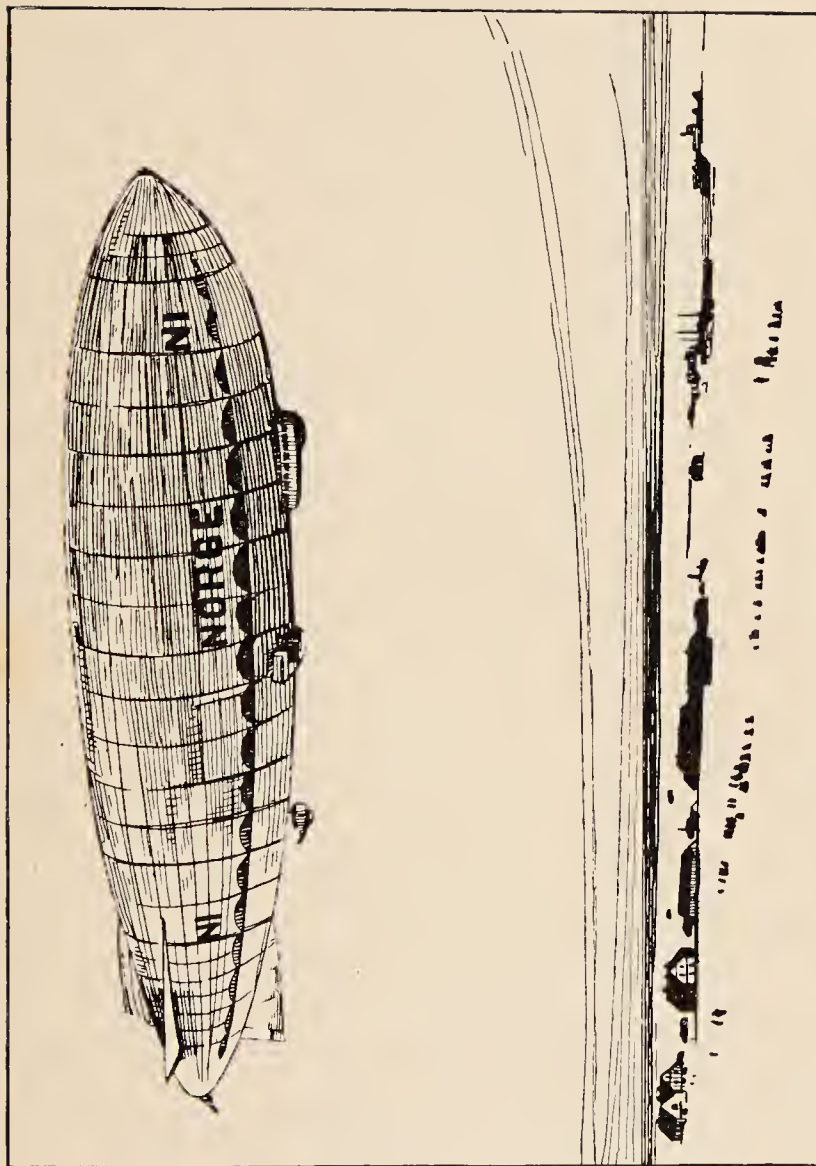
during March in Toronto or New York. Moreover, if you were to stand exactly at the Pole for twenty-four hours in July, your shadow would wheel a full circle about you in that time. You would feel like Stevenson in his juvenile poem that your shadow was sticking to you in a most shameful way and you would wish that there were none of him at all.

It is said that there are vast hummocks of ice all about the Pole, some of them thirty feet high. But there is very little snow, and what does fall is fine, dry, and feathery. In no place near the Pole is the snow very deep.

Probably the Pole is on an island, but whether the island is as small as Iceland or a land-continent like Greenland may never be known. A recent writer suggests that the real Garden of Eden was in polar seas a million years ago. If that theory were tenable, climatic conditions may again change and men may be exploring the borders of the polar tract in every bay and fiord a million years hence.

The flora and fauna of the polar centre are negligible even in July. No whales, walruses, or seals, disport here. No tree or shrub could live in these bleak wastes. No flower, however hardy, invites disaster by seeking a home where only one man has ever set his foot. That man and his companion Eskimos very rapidly departed from the menacing conditions which they experienced for one day only at the Top of the World.

On May 9th, 1926, Lieut. Commander Richard E. Byrd, U. S. Navy, and his companion, Lloyd Bennett, flew from Spitzbergen to the North Pole and returned safely to their base in the short space of 15½ hours.



AMUNDSEN'S AIRSHIP AT SPITZBERGEN.

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Their great Fokker aeroplane, carrying a load of two tons, and equipped with three motors, made the journey of 1500 miles at the rate of $98\frac{3}{4}$ miles per hour. Commander Byrd flew three times in a circle over the Pole and dropped a box containing the record of his flight and an American flag. Three days after Byrd's achievement Captain Amundsen also reached the Pole and returned without mishap. His earlier venture in April of the same year had met with failure. These two brave pioneers will soon be followed by scores of others, and a journey through the air to the Pole may become before long a common summer jaunt.

THE LAND WITHOUT A WOMAN

WITHIN sight of that high Mount Olympus, to the west, where the Greek gods were supposed once to dwell, and also within sight of the windy plains of ancient Troy, where men for ten years fought for the possession of Helen, indeed, almost half way between these two famous spots, stands a lofty peak, called "The Holy Mountain," its white marble summit, 6,350 feet high, glittering in the sunlight. Mount Athos, rising sheer from the water, is the southern extremity of that high wooded ridge which runs down for forty miles into the Aegean Sea from the Macedonian coast. There are, in fact, three of these ridges, but legend and authentic history mainly gather about the eastern peninsula.

Off the point of Athos the great fleet of Mardonius the Persian was utterly wrecked in 492 B.C., and in 480 B.C. the mighty Xerxes cut a canal through the isthmus, north of the peak, in order to prevent a similar disaster from overwhelming his much larger fleet. Traces of that canal still remind us of that innumerable host which twenty-four centuries ago swept through this region, by water and by land, towards the disaster that awaited them at Salamis.

It is not, however, to view the scant remnants of this ancient canal that the traveller now sails to the Athos peninsula. He goes to visit a community *where no woman dwells*. For a thousand years no female, not even a lower animal of the weaker sex, has ever been admitted to this

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monastic republic of Monte Santo. The port at which one enters, on the southern shore, is Daphne, called after a Greek maiden who was changed to a laurel tree. The capital of the state is the village of Karyes near by, the seat of the local government since the tenth century.

The sacred republic embraces the whole peninsula of Monte Santo,—forty miles long and from four to seven miles wide. There are in this remarkable region no fewer than twenty monasteries. The largest, the monastery of

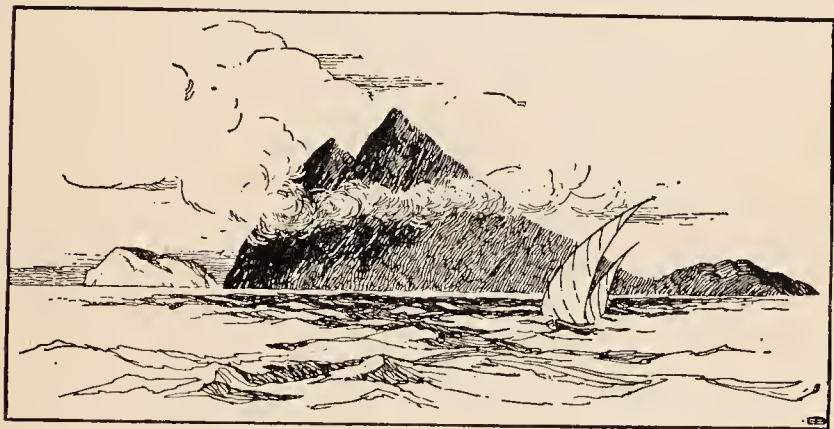


THE MACEDONIAN PENINSULAS.

Laura, was founded in 969 A.D., by a certain St. Athanasius. Three other monasteries were also founded in the tenth century. The other sixteen began as follows: eight in the eleventh century, two in the twelfth, one in the thirteenth, four in the fourteenth, and one in the sixteenth.

Each monastery had two founders,—a monk, and some rich prince who provided the necessary funds. Perhaps the most remarkable of the early founders was Peter the Athonite, who lived there fifty years in a cave before he

secured the needed funds for building and equipment. All the monasteries belong to the order of St. Basil,—Basil the Great, bishop of Cappadocia in Asia Minor. They are under the rule of abbots whose discipline is exceedingly strict. The monks all dress alike; they have their meals together in the refectory; they are not allowed to own any private property. Their day and night are largely occupied with prayer. Service begins at midnight and lasts till dawn. Then come a meal and a period of



MOUNT ATHOS.

rest. All appears quiet in most of the houses from ten A.M. till four P.M. Another devotional service starts at seven P.M. and lasts till ten P.M. Then is served the second meal of the day. In some of the establishments there is only one meal on Mondays, Wednesdays, and Fridays, and flesh, even fish, is forbidden on these days. Their chief fare on all days consists of herbs and fruits.

In the twenty monasteries there are about 3,000 monks and 4,000 lay brothers. The chief nationalities represented are Greek and Russian, about equal in numbers.

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There are also several hundred Bulgarians and Rumanians. It should be stated that the order of St. Basil is connected with the Orthodox Greek Church.

The population of Monte Santo is recruited from four principal sources:

(1) Young men who are seized with a desire for a monastic life as a certain way to salvation, and who think that the world may be helped in a spiritual way by their prayers.

(2) Men of middle age and elderly men, both laymen and others, who seek in a cloister a calm refuge from the cares and griefs of the outside world.

(3) Ambitious churchmen who desire to control one of the twenty monasteries, becoming one of the bishops of Monte Santo.

(4) The lay laborer, who seeks Arcadian peace on earth and a sure immortality after this life. He often ends his career by becoming a monk.

All classes of novices must serve a probation of at least three years, unless their probation has begun elsewhere.

This religious republic is ruled by an Assembly of twenty members, one sent from each monastery. From these a Council of four forms an executive body, chosen in turn from the twenty representatives. The centre of government to which all the delegates repair is, of course, the capital village of Karyes.

A stranger, if a man, of decent appearance and with satisfactory credentials may visit the monasteries. As you draw near to one of these houses you see that it is fortified. It consists of a large quadrangle, with churches enclosed. The surroundings of most of the monasteries are beautiful,—well-kept gardens and parks. The noble

trees have rich and abundant foliage. Some of the gardens are given up to the culture of the grape and the care of bees, for wine and honey are not forbidden fare.

When you enter a monastery, you are free to remain within the precincts for the space of three days, but for only three days. If you wish to be a well-treated guest and to be sped with good wishes at the end of your visit, you should be very careful about certain customs, or rather rules, of the houses. You must never smoke in or near the holy buildings. You must duly cross yourself, not only when you enter a church, but also at the beginning of every meal. You must attend a church service at least once during your stay,—oftener if you would greatly please your watchful host. If you obey the rules and ever act with due discretion, you will be supplied with a guide and a mule to take you over the next stage of your journey.

If you are a student, you will find much to thrill you in some of these sacred houses. Here are kept treasures beyond all price. Here are numerous old manuscripts, as well as specimens of Byzantine art, rare and rich. On many of the walls are frescoes unique and gorgeous. Brilliant mosaics adorn pavements, walls, and vaulted ceilings. There are mosaics, too, in miniature form, compact of glass and ivory and precious stones, preserved in cases of silver or of bronze, the supremest product of the craftsman's art. The monks guard their treasures with jealous eyes, but they will be glad to sell you, at a good price, it is true, various amulets, images, crucifixes, and wooden articles of furniture which they themselves have made. If you are wise, you will try to please by

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taking away, at whatever cost, some memento of the gracious hospitality of the house.

The regulations of this community which forbid women showing their faces in any part of the peninsula are not in any sense hostile to women. Many of the saints whom they revere, if not worship, were women in the days of their earthly pilgrimage. Their greatest monastery, Santa Laura, was named after a female saint. These strict prohibitions regarding women are intended to push to the last extremity the advantages of a celibate life. The banishment of women from their commonwealth is a compliment rather than a slight, for it is regarded by the monks as a magnificent sacrifice on their part to go through this earthly life without the companionship and sympathy of the other sex.

Before we leave this strange corner of the world, we must be careful to consider an incident not generally known. In the Middle Ages the monasteries of Mount Athos were the very centre of Greek learning. Hundreds of valuable Greek manuscripts have come from the Sacred Mountain. Moscow and Paris have been the chief discoverers and purchasers. It is a good thing that Mount Athos lost these documents in time, for in the War of Greek Independence (1821-29) the Turks destroyed hundreds of precious rolls to make cartridges. Of all the manuscripts treasured in Monte Santo for centuries, perhaps none has caused more stir, or has been scattered more widely by the art of printing, than the roll found there in 1844,—over a hundred of the fables of Babrias. This Babrias, a Greek of Asia Minor, turned the whole of Aesop into verse, and the present prose versions of Aesop's Fables are mainly derived from the verses of the

monk Babrias. This great discovery of the Babrias Fables was made at the convent of Saint Laura on Mount Athos by a scholar sent there by King Louis Philippe of France to search for valuable ancient manuscripts. So we must remember, when we read "The Lion and the Mouse," "The Wolf and the Lamb," "The Dog and His Shadow," that the stories were preserved for ages from destruction in the great monastery of Mount Athos.

THE LITTLE PEOPLE OF THE BIG FOREST

WE MET them on our way through the densest forest in all the world. So close together were the trees that no glimmer of sunlight ever entered. Our sharp axes were continually at work cutting a path wide enough for our company to squeeze through in single file. Day after day the same darkness, the same toilsome hacking, the same slow progress. One day we stumbled on a little variety. Early in the morning, as we raised our axes again, we saw thirty yards ahead of us a small group of queer-looking creatures. They were about three feet high. In the gloom of the woods they appeared to be almost black. That they should be almost naked did not, of course, surprise us. Their big, bulging eyes glared at us with a wild expression of surprise. One of our number had command of enough words of that region to carry on a sort of half-pantomime conversation with their leader. He asked him if they had any ivory to sell, at the same time holding out to him beads and cowries (shells used as coins in that country). The little fellow motioned us to follow them, and they began to thread their way among the trees. For six days they led us on and on into the forest, which became less dense as we proceeded. At last we came to the first village of the pigmies' settlement. They would not let us enter the village till they had informed their king of our presence. It was three days before our tiny guide returned. They told us that we had permission to go and live in their village. For several

THE LITTLE PEOPLE OF THE BIG FOREST 21

days the little brown king was very kind to us, but his eyes had a shifty look. We bought from him and his people about four hundred tusks of ivory, and paid for them with copper, beads, and cowries. They fed us well on bananas and plantains. In ten days we prepared to pursue our journey, but the king startled us by saying with a threatening voice that we must not go away. "But we have finished our business here and will now say good-bye," our leader declared firmly. The king ground his teeth together and muttered what we understood to mean: "You must buy all we have before you go!" Our leader talked over the situation with us, and we then tied on our belts and grasped our rifles. Instantly the pigmies, without a signal from any one, began shooting their reed arrows at us. The arrows were small and scarcely scratched us. The scratch, however, accomplished much. Our men began to fall all around as the poison from the arrow tips took immediate effect. The imps all the time screamed and danced like monkeys. The tree tops were soon swarming with the Lilliputians, and the long grass was alive with them—all shooting their arrows with unerring and deadly aim. We rushed back from the woods to their village and tore down quickly some of their small houses to build a barricade against them. This made them wilder than ever. Our enemies were so small and so nimble and so numerous that there appeared to be little chance of mastering them. Even during the night their arrows could be heard and felt, and their frantic yells never ceased. All the second day and all the second night the pigmy host assaulted us, and the few that we succeeded in killing did not seem to diminish their number. As our powder was running low, we decided to make a



HE CAME SUDDENLY UPON TWO PIGMIES.

raid upon them, or at least upon a very desperate group which was dancing near our defences. By a lucky chance we captured a great prize. The king of the pigmies was in our possession. The little people ceased shooting and came rushing towards us, crying with their thin, musical voices, "Peace, peace!" They pointed towards their king and begged us to return him to them. We debated together for a long time as to what we should do. At last it was decided that we should accept the risk of returning their king if they would agree to let us depart quietly.

We had not gone many yards before a thousand arrows were flying from tree and sedge and from the village behind us. We dropped all our purchased ivory and everything that would impede us and with only our guns and swords left we ran for our precious lives. This we should have done two days before, but this was our first experience with these black hornets. In our race for safety we soon gained on the little rascals, since our legs were three times as long as theirs. However, for a mile or two occasional arrows were shot by the outposts of the pigmies, who guarded their community from all comers and who gave a nasty farewell to all goers. With the loss of two or three more of our number we got safely away.

Such are the main features of a sensational story told in 1876 to Henry M. Stanley by an Arab traveller whom he met in the deep jungles of pigmy-land.

When Stanley, eleven years later, in 1887, was sent out by the British government on a special mission, he himself found in the dark forests of Central Africa, on the Ituri River, two pigmies, a man and a woman. He came suddenly upon the two little creatures as they were peeling plantains. His record runs thus:

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“The height of the man was four feet; that of the woman a little less. He may have weighed about eighty-five pounds. The color of the body was that of a half-baked brick, and a light-brown fell stood out very clearly. So far as natural intelligence was concerned, he was certainly superior to any black man in our camp. I suppose we must have passed through as many as one hundred villages inhabited by pigmies. Long, however, before we reached them they were deserted and utterly cleared out. Our foragers and scouts may have captured about fifty of these dwarfs, only one of which reached the height of fifty-four inches.”

For 160 days the great explorer toiled and struggled through the gloomy shades, shot at again and again by the pigmies with their poisoned arrows. Indeed, this journey from the Congo to Albert Nyanza, three hundred miles away, destroyed 215 of his party out of a total of 389, and the arrows of the pigmies were only less fatal than the terrible equatorial diseases.

Of this strange race we read in very early human records. The Greek Aristotle mentions a race of men of small stature who dwelt in the region where the Nile rises. Herodotus, another Greek who tells so many travellers' tales, gives an account of pigmies living in a town in an African forest through which ran a great river (perhaps the Niger?). On the tombs of several Egyptian kings pigmies are represented, similar to those met to this day in the wilds of central Africa. Some of the African dwarfs served, no doubt, in the households of the kings of Egypt.

The pigmies of Africa live in a district running from the east of the Continent almost to the west. The region they inhabit is only about 400 miles wide, the equator passing

THE LITTLE PEOPLE OF THE BIG FOREST 25

through the very middle of pigmy-land. It is interesting to remember that the equator runs through British East Africa, and it is almost certain that the Uganda Protectorate was once one of the homes of the pigmies. It would appear that the little people have been driven from the north and from the south by their more powerful neighbors and forced to dwell in a belt of territory too hot and too unhealthy to serve as a permanent home for those who have ability to choose freely a place of habitation. It would seem, therefore, that in the course of ages these *Negrilloes*, as they are called, have peaked and pined and dwindled till they are only stunted remnants of a sturdier ancestry. Many travellers, however, take an opposite view, and conjecture that these pigmies are the original type from which all the other negroes of Africa have, in the course of many centuries, developed.

The average height of the pigmies is about four feet, some being no taller than three feet. They weigh from 55 to 73 pounds. Their general appearance is most striking. Their hair is crisp and closely curled. Their noses are flat and broad. Their eyes are large and keen. They have long upper lips, large ape-like mouths, and receding chins. Their bodies are covered with woolly hair. Their arms are comparatively long and their legs proportionately short, indicating that they prefer climbing to walking and running. Their skin is usually a chocolate brown, as we might expect in a race living within the gloom of the forests away from the burning equatorial sun. The pigmies wear little clothing, only a shred of skin or a bunch of green leaves daily renewed. The great heat of their scorching land, even when tempered by the

dense leafage of their forests, has led to their divesting themselves of all needless raiment.

The dwellings of the pigmies are very small, only four feet high, and made of bent, interlaced branches and plantain leaves. A hole near the earth through which they creep affords them an entrance. They live on the flesh of birds, deer, and other forest creatures, which they kill with bows and arrows. They also eat white ants and the larvae of beetles, as well as honey, wild beans, and mushrooms, when they can get them. Plantains and bananas they devour greedily, when they can secure them from their big neighbors by barter or by stealth, their own jungles not yielding such luxuries.

These little people marry when they are nine or ten years old. The girl is purchased from her father for ten or fifteen arrows, with sometimes a spear or two thrown in. Each pigmy has as many wives as he can afford to buy. The limit of life in pigmy-land is, as we might surmise, very soon reached. Most of the wee people die before forty. When their king dies, his wives are killed and buried with him. There are no regular laws among the pigmies, only custom deciding what must be done. If a man is killed, his next-of-kin lies in wait for the murderer till he has taken life for life. These queer people have considerable humor and often indulge in forms of gaiety. They will dance together in a long line, which twists and turns like some monster snake. The possession of humor indicates intelligence, and we are not surprised to learn that their minds are far brighter than those of the big negroes of the Sudan.

In the year 1906, in the interests of science, six pigmies were carried by travellers to England. They were there

THE LITTLE PEOPLE OF THE BIG FOREST 27

clothed and fed as if they were English. In eighteen months they were taken back to their own land, according to agreement. The fact that their health had improved in England and their weight had increased about ten pounds each shows clearly that climate and food have much to do with health and strength and size.

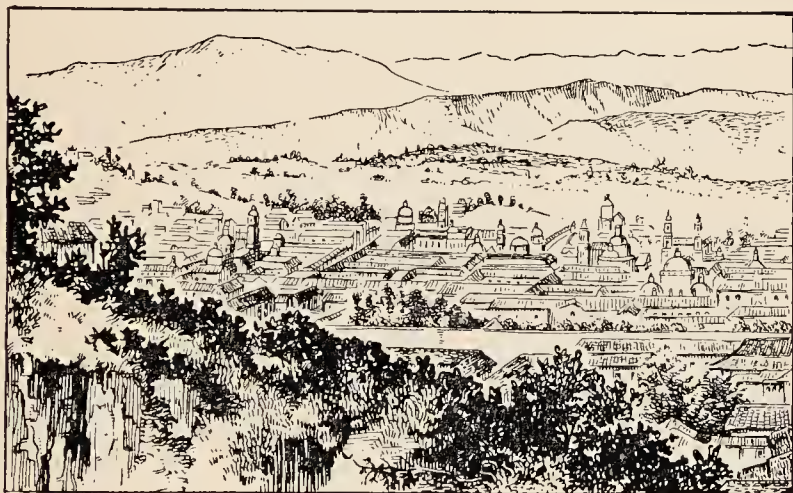
THE CITY ABOVE THE CLOUDS

IN THE long Pacific coast, extending from Alaska to Cape Horn, there is only one great indentation. That happens to be just south of the equator, and it runs far into the land which from its equatorial position is called Ecuador. This vast Gulf of Guayaquil owes its existence to a remarkable river system,—the Guayas and its many tributaries. Thirty miles above the point where the Guayas enters into the Gulf and 74 miles from the Pacific is situated the port and most prosperous town of Ecuador, Guayaquil. From this place begins the interesting journey we are to take to Quito, "The City Above the Clouds."

It is comparatively easy now for the traveller to reach Quito, but not very long ago the journey was made on the back of a mule all the way, and even in the early days of this century the mule and the stage-coach had to serve for two-thirds of the way. In 1908, however, thanks to British and American finance and enterprise, the Guayaquil-Quito Railway was completed, 290 miles in length. The Pacific terminus of the railway is at Duran, a small town on the bank of the river Guayas, opposite Guayaquil. The passenger begins his romantic adventure by being ferried over from Guayaquil in a boat provided by the railway company.

Most of the railway to Quito has a steady climb uphill, for at the highest point of the line, at Urbina, the elevation is 11,841 feet above the sea. The line has been

constructed along the old mule track to Quito, deliberately destroyed in many places in order to oblige every one to use the new railway. At Yaguachi, thirty miles up, the river of the same name is crossed by a great steel bridge of three spans. For the next thirty miles the railroad traverses a fine country, highly cultivated and prosperous, yielding abundant supplies of plantains, bananas, cocoa, coffee, chocolate, and sugar-cane. Through this



QUITO.

region the train turns and twists as it rises. The mountains are splendidly wooded and clothed with a luxuriance of palms and gorgeous creepers. The alien eucalyptus from Australia is everywhere noticed all the way to Quito. At the end of the first sixty miles the mountain section of the road begins at an elevation of 975 feet above sea level. The gradient is so steep that powerful locomotives, drawing trains of only five cars, are used. Beyond Huigra, 4,000 feet high, we come to the region of landslides and washouts, which are costing the railway com-

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pany great sums annually. We are very lucky in escaping the necessity of having to walk with difficulty around one of these obstructions. Beyond Huigra occurs the famous "zigzag" or switchback on the mountain-spur known as "The Devil's Nose." The line passes through a ravine between the mountains, and then reversing its direction crawls back up the face of the precipice on a narrow ledge cut out of the solid rock. At the Alausi loop, 8,553 feet high, a magnificent view is obtained of the Chan-Chan Valley below, where a system of terrace-cultivation permits the natives to use every foot of the land upon the hillsides. This wonderful Ecuador garden continues till the train has mounted to a height of 12,000 feet above the Pacific. Cattle, sheep, and goats, throng the green slopes, and vast fields of grain, alfalfa, beans, and potatoes, spread out to the horizon. The potatoes, as might be expected, are very fine and abundant, for this is their original home, the Indians of the district having produced them long ago from the bitter, wild variety still to be found here. Chimborazo now bursts into view on the left, with its glorious double peak and snow-clad crests. The plateau of Riobamba, where the production of wheat has greatly increased since the opening of the railway, has one of the healthiest climates in the world. It is true that the high altitude causes delicate people to have headache and nose-bleeding and even fainting fits, but this *sorocche*, or mountain sickness, is only temporary even with weak folk. Just beyond Riobamba the highest point is reached and a rapid descent begins to Ambato, 8,435 feet above sea level. On the way down towards Ambato is observed a peculiar phenomenon,—dust whirlwinds move past in

battalions, marching towards Chimborazo. These pulverous pillars are about a hundred feet high. The line now soon crosses the base of Cotopaxi, whose cone is surmounted by the smoke-wreath from its crater. Beyond Cotopaxi lies the fertile valley of Machachi, and we are now drawing near to Quito, situated in a great pocket among the mountains, with an elevation of 9,375 feet above Guayaquil. The haciendas, or farmhouses, and the mud huts of the Indians, made of adobe, cluster thick as the little train after its tortuous journey steams into the capital of Ecuador.

On the way to Quito the traveller is most impressed by the long chain of stupendous volcanic peaks, twenty in number, crowded together in the last stage of his journey. Chimborazo is the monarch of the Andes. The Indian name means "Mountain of Snow." The base is covered with forest up to the snowline, above which the pure white dome rises for a further 5,000 feet. It is an extinct volcano, and instead of smoke mists and clouds shroud its summit.

Cotopaxi is the highest active volcano in the world. Smoke curls from its summit unceasingly. Two centuries ago Cotopaxi was the constant scourge of Quito and the surrounding region. Indeed, there were seven great eruptions between 1741 and 1768. It is said that the thunderings of the monster were heard in Colombia, 500 miles away. Its peak, a symmetrical cone, is visible for only a few days every year. It is distant from Quito only 35 miles in a south-south-easterly direction.

The best known of the volcanoes of Ecuador is Pichincha, the "Boiling Mountain." Its destructive eruptions

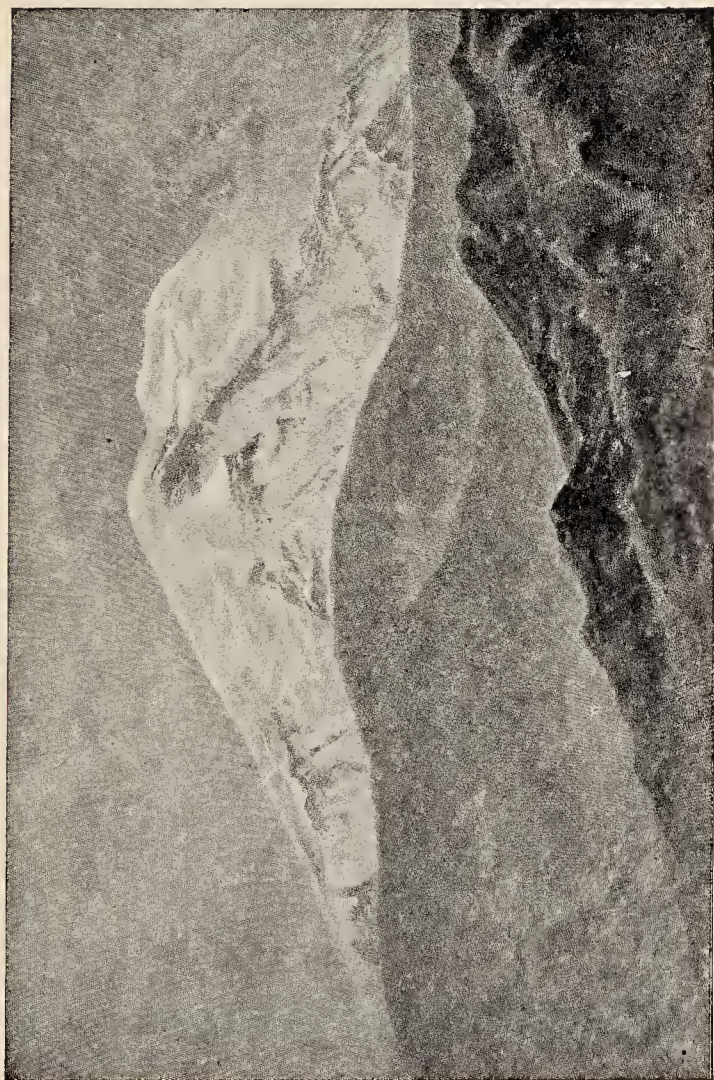
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and its proximity to Quito have caused it to be regarded with much dread. Its eruption in 1575 covered Quito three feet deep with stones and ashes, and there have been three destructive outbreaks since that time. Since the earthquake of 1867 in this district the volcano has sent forth only dense masses of black smoke and a great quantity of fine sand. The ascent of the two Pichincha peaks is very easy, and as the volcano is only eight miles northwest of Quito to visit the edge of the crater is one of the pastimes of the people of that city.

One's first impression of Quito is that it is a white city, the whiteness being relieved by the red tiles of the roofs. The streets are always thronged with interesting people. A large proportion of the population of 80,000 must spend their time out of doors. Smart dressing is the dominant characteristic of the well-to-do. Gentlemen in top hats, frock coats, and white waistcoats, saunter past you on the main streets. Ladies in victorias drive about, or to the shops, which are filled with merchandise from London, Paris, and New York. Officers in regimentals and Indians with red and yellow ponchos or cloaks and white cotton trousers and white hats help to produce a picturesque variety of color in the public squares and thoroughfares.

There are two main languages spoken in Quito. The official language of the city is, of course, Spanish, which is spoken by the "upper third." The bulk of the people use the Quechua tongue, which has come down from the ancient Incas.

The history of Quito has never been properly written, but tradition makes the city as old as Jerusalem or Troy.



CHIMBORAZO.

Pizarro, the great Spanish conqueror of Peru, came upon the city in its full glory, the capital of the mighty empire of the Incas, or native Indians. He found the great palaces of stone adorned with gold and silver and gems. These were plundered and destroyed by Spain and the brave Incas were reduced to a state of slavery. The Incas were not the earliest inhabitants of Quito of whom



PIZARRO.

we have authentic records. Pizarro learned that an earlier race, the Quitos, had lived there and built most of the great buildings centuries before. Indeed, the Incas themselves belonged to Peru, and they admitted to the Spaniard that they had dispossessed the earlier Quitos only about seventy years before. So when we reflect on the

ancient magnificence of Quito, we must go back at least to the beginning of the Christian era and imagine the cultivated Quitos building gorgeous temples in the capital of their great empire.

There are some odd customs in old Quito which amuse the traveller. There are no fixed prices for anything in the shops. If you wish to buy an article, the merchant wants to know how much you will give for it. If you name a sum, he will ask about three times as much and begin about a quarter of an hour of bargaining. The

women in the market will sell only in small quantities. If you want several pounds of potatoes, every pound must be weighed out separately. As the smallest coin is worth three halfpence in Quito, small amounts are paid in bread. On your way to market you must provide yourself at the baker's with enough bread for change, so many rolls for a penny. Everything has to be paid for in advance in the capital of Ecuador. If you ask a woman on the market for a few vegetables, she requests you to hand her the money. Of course, if you order a coat at the tailor's or boots at the shoemaker's, you must pay in advance. At your hotel or boarding house you get no credit; you must pay in advance so that the landlord may have cash to buy your food for you. There are no chimneys in Quito. The weather is not cold enough to need a fire for heating purposes, and the cooking is done with charcoal; and there must be a different fire for every pot or kettle.

Ecuador lies within latitude 2° north and latitude 6° south of the equator. Although it is traversed by the equator, there are few countries in the world which present such climatic varieties, for within a small area, within a few hours' journey, all the zones of the earth may be encountered. Beneath perpetual snowfields lie fruitful valleys. Perennial winter reigns near perennial spring. In Quito itself the climate is perhaps the finest in the world and the air the most bracing. The maximum temperature for the year is 70° and the minimum is 45° . Perhaps the traveller may complain of the frequent showers, for every year there are a hundred thunderstorms and from 150 to 185 rainy days.

With the railway facilities of the new day in Quito there will doubtless be rapid changes in the manners and

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customs of the inhabitants. Already the city boasts of electric lights on its chief streets, and the electric tram-cars are driving the mules to the country. Quito, accordingly, is just beginning a new era which promises prosperity and happiness to a degree not dreamed of a quarter of a century ago.

THE UNTAMED RACE

THERE is a corner of Europe which is no real part of Europe. The armies and the culture of Europe have for more than two thousand years tried, but in vain, to make this strange land like the rest of the continent. To-day it still defies its northern, eastern, and southern neighbors, and its desolate sea-coast warns off all western intruders. It is true that Albania belongs to the League of Nations, but that beautiful fiction does not affect in the least the men of the hills, who are the true Albanians. In fact, the government of Tirana—the new capital of Albania—recognized though it is by civilized Europe, is despised and flouted by the proud tribes of the north and the east.

The Albanians are the most ancient race in southern Europe, and they still preserve their primitive speech. They were well established among their crags and hills long before the Greeks and the Romans moved into southern Europe and found homes on the shores of the Mediterranean. Indeed, it was Alexander of Macedon, the son of an Albanian woman, who struck the Greeks a fatal blow in 335 B.C., and it was Pyrrhus of southern Albania who overthrew a well-drilled Roman army in the very heart of Italy half a century later. Down through the ages the tall, wiry Albanian soldiers have been, in the armies of Greece and Turkey, as walls of stone against the enemy. In the Great War of 1914-1918 the Albanians fought on both sides with equal gusto and valor.

In all but the highlands of the country the Albanians for centuries have been successively under the rule of the Gauls, the Romans, the Goths, the Bulgarians, the Serbs, the Venetians, the Turks, but only the Turks have managed to make a long stay. To-day the Moslem religion



AN ALBANIAN OF THE HILLS.

and customs are wide-spread, excepting among the savage and untamed mountaineers.

The tribes of the hills scorn the name Albania. That name is as hateful to them as is everything else which

Europe has tried to impose upon them. They call themselves SHKYPETARS, Sons of the Mountain Eagle, and their country SHKYPERI, Land of the Mountain Eagle. Not till the fourteenth century do we find the name Albania applied to this strip of land on the eastern shore of the Adriatic Sea. In Roman times the land was part of Epirus and part of Illyricum, the name Albania being applied in the great days of Rome to a little country on the western shore of the Caspian Sea.

Albania is a country without a railroad, and almost without one decent highway. It has no banks, no native coins, no paper money. In the hilly regions it has no schools, only the priest being able to read and write. In the ruder parts of Albania there is no such thing as private property. Among the people of the mountains there are no laws, but there are customs which control the tribes more effectively than laws, even if the methods employed are wildly cruel.

The Albanians follow the Law of Lek, who appears to have been a sort of Moses among them in times too remote for historical record. This Law of Lek is based on personal honor, which also involves the honor of the whole tribe. A man or a tribe must punish an insult to honor by killing the guilty one. Thus a blood-feud may exist for many years until the Law of Lek has been fully satisfied. Murder is not the only crime thus avenged. A woman must not be stolen, or injured, or even insulted. If a man or a tribe fails to keep a BESA (word of honor) in a matter of land, or marriage, or even so common a thing as drainage, he is marked out for death. If any of these crimes is committed by a member of the same tribe, the house of the guilty one is burned down and the

man becomes an outcast and must go into the wilderness and live alone there. In the case of an insult to the whole tribe by a member of another tribe at least sixteen deaths are required by the law to complete the atonement. So great is the toll of life which these blood-feuds take that only seventy-five per cent of the people of Albania die natural deaths.

There are several odd usages in connection with these blood-feuds which soften their rigor, or at least postpone the penalties. The law of hospitality requires a man to entertain even his bitterest enemy should any chance bring that enemy under his roof. Not only so, but the host must not pursue his guest till twenty-four hours have passed. "Go on a smooth road," says the host as his enemy leaves him, "there is a word of peace between us for a day and a night because you are my guest. After that I will follow you all my life until I kill you."

A remarkable usage also prevails in regard to women. No woman must see a man killed. So strict is this rule that two women travellers recently engaged as their guide through the territory of a mountain tribe a native of the country who was under the death edict of that tribe. The culprit was able to pass freely among his enemies, safe and unmolested, because he never left the company of the two women whom he was escorting.

These blood-feuds, in the absence of all laws and police and jails, are the only method of enforcing the strict Law of Lek. Albania is the only country in the world where capital punishment is surely carried out when sentence has once been pronounced. There are no reprieves and no exceptions. "Let him die the death" follows the heels of crime with certain stride.

While the Albanian hillsman protects his women folk with sleepless care, he is not very tender towards them in the daily conduct of life. The true mountaineer will let his wife carry his loads. She is sturdy and powerful and willing; she is even beautiful when young. Hard work, however, soon saps her strength and destroys her youthful charms.

Savage and fierce as are these Albanians, they are sentimental and superstitious to a degree. The following marriage song illustrates both these qualities. It is sung by a choir of young blades as the bride appears at the wedding.

“How beautiful the bride is!—Marshallah!
She has a broad forehead!—Marshallah!
She has eyebrows like ropes!—Marshallah!
She has eyes like coffee-cups!—Marshallah!
She has cheeks like vermilion!—Marshallah!
She has a nose of fine shape!—Marshallah!
She has a mouth like a pill-box!—Marshallah!
She has teeth like pearls!—Marshallah!
She has a figure like a cypress-tree!—Marshallah!”

MARSHALLAH is uttered in a weird drawling howl after each of her attractions is sung, lest the praising of her charms in her presence may bring down upon her the penalties of the evil eye.

The following anecdote is thoroughly Albanian in its setting and in its conclusion:— A man had displeased a woman, but not to the extent of endangering his life thereby. One morning early he was passing down a mountain path, when he met the woman carrying a jar of milk.

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She halted and lifted her jar towards the rising sun, as she cursed him in due form. A woman's curse is no light thing, but the man knew how to deal with the dread dilemma. He raised his rifle—and shot her jar to fragments, thus escaping the evil of the curse!

Everyone who has visited Albania wonders how the people live. Gibbon in his history calls the Albanians "a vagrant tribe of shepherds and robbers." As to their sheep and goats, they are numerous, but they appear to be half starved. There is so little verdure on the hills that the shepherd climbs a tree and cuts off young branches. These he throws down to his hungry flock below, which soon strips them of the young buds and the juicy bark. There is not a tree in all the hill regions that has not been climbed ever since it was a sapling.

If you look at a map of this country, you will naturally ask: "What about Scutari and Durazzo? Are they not considerable towns in Albania and under the softening influences of civilization?" Yes, but they are not Albania. Nor is Tirana, where a cabinet of Moslem land-owners and a regency of four worthies—Moslem, Roman Catholic, and Greek-Orthodox—hold nominal sway under the direction of the League of Nations. The real Albania is the untamed mountain area of this strange land.

WHERE ATLAS HOLDS THE HEAVENS ON HIS SHOULDERS

WHEN Atlas, the brother of Prometheus, for his awful crime of rebellion against the gods, was condemned for ever to bear the heavens on his shoulders, he was sent, so runs the legend, to plant his feet on the extreme north-west corner of Africa. That region of the world then began to live its life of eternal romance. Like the views of a kaleidoscope, or of a film-picture, history has shown in this out-of-the-way place many shifting scenes. During twenty centuries a long procession of different races has passed to and fro in this magical land of Morocco,—the cave-dwellers, the aboriginal Berbers, the soldiers of Carthage and of Rome, the Vandals, the Goths, the Arabs, the Portuguese, the Spaniards, and the French. It is no wonder, then, that every city and town in Morocco contains an assemblage so varied in features, in dress, in habits that one can scarcely tell who is who.

Half way between the Rock of Gibraltar and the Middle Atlas Range is a town little known to the English-speaking race, but of vast importance, it will be seen, to the followers of Mohammed. Under the care of France the town is now accessible to travellers, who may at leisure and in peace explore its marvellous secrets.

Rabat, as we see it, was built 750 years ago. But even in early Roman times there was a colony on this coast called Sala, within a few miles of the site of modern Rabat. The remains of the old colony are almost gone,

but the remains of old Rabat are everywhere to be seen, the older houses oddly intermingled with the newer, throughout all the wide area confined within the strong, well-preserved walls.

Yonder near the sea is a great square tower, 145 feet high, left unfinished by some ruler whose vision was greater than his means for turning his dream into stone. On a cliff facing the Atlantic crumbles an old Moorish castle. We admire the gorgeous gateway of red stone with its wonderful carving. The short curved swords designed in delicate relief on its pillars and posts tell us of a day when the master of this ruined castle kept a formidable retinue of soldiers to ward off all intruders. Great flocks of storks with their young frequent these grey old walls and minarets, safe in these secluded places from the stones and shafts of mischievous children. Past the castle walls flows a river, gleaming in the bright African sun, and singing a pleasant tune, which it has doubtless been singing for many ages. The music of the river is made more charming by the accompaniment of the murmuring surge of the near-by ocean, towards which its waters slowly move. As we look down the river towards the sea, the great Lighthouse cannot escape our notice, its flame alive even at mid-day.

But it is time for us to seek the City. The whole countryside is an enchanting vision. The landscape in these clear summer days is rich with color, as beautiful as an oriental carpet with a rainbow profusion of blue and red and white and yellow upon the green of the earth. And the larks have not all gone north, for one of those blithe spirits is even now pouring his full heart from heaven in a rain of rich melody.

The walls of Rabat reach back over the high plateau for several miles to the east in the direction of Fez. One enters by a guarded gate. The old bronze cannon that flank the road no longer create awe in the beholder. The principal street of the city is a splendid avenue. It gleams with white houses, and glows with gay terraced gardens and their ravishing fountains. At every fountain this hot day someone is drinking.

You notice at once that Rabat is a paradise of trees and vines. Yonder rises a majestic palm-tree. These mighty chestnut-trees have bloomed earlier in the season. The orange trees will soon be weighted with their golden fruit. Fig-trees and grape-vines mingle their lush foliage in a hundred gardens. Bananas and scarlet pomegranates will in a few weeks be on their way to Paris and London. Pergolas flaunt themselves everywhere, laden with overhanging creepers or with vines of maturing fruitage.

What a motley crowd one sees as he strolls towards the great Mosque. There sits on a low step a quaint white Moor with white beard: he is wrapped in white robes: his lips move in prayer as he clutches his rosary. A tall Algerian struts along with a grand manner, his hard eyes proclaiming a cruel heart. An old Arab is crossing the street by the side of his brown mule, covered with a red saddle-cloth. The man you see next is, they tell you, an Andalusian whose ancestors came from Spain hundreds of years ago. Troops of Moorish boys and girls, with black eyes and ivory faces, pour along as if just freed from school. But one is told that there are no schools here worth mentioning, for little besides the Koran has to be read. The women are of many classes, some of startling

beauty. Those of the lower orders deck themselves out in a motley head-gear, concealing their faces but not their sparkling eyes. There are many Jews in Rabat, whose



THE SULTAN RIDES IN STATE FOR ALL HIS PEOPLE TO SEE.

haggard features tell of lives none too happy. There in a corner of the square a dark Moor from the country is selling acorns to the crowd. A French captain, and his simple *poilus* in blue uniform, pistols at belt, declare

the martial ascendancy of France. A *muezzin* with long white robes slips by to his tower, whence he will warn all that the time for prayer is fast approaching. An old slave woman from a harem squats in a peaceful corner sipping her tea. Those women in fine attire come from the French Residency, for their gowns could have been made only in Paris. On the house-tops, here and there, in dresses of many vivid hues, are seen women going about their ordinary household duties. This amazing variety of races and types and raiment has a close relation to the eight centuries of checkered history which Rabat has experienced.

If you should enter an inn or secure admission to one of the better mansions of the city, you will be dazzled by the magnificence. You will see glorious ceilings in blue and saffron and gold,—walls hung with splendid carpets and embroideries,—floors spread with eastern rugs,—cushions and divans of many-colored velvets,—shining floors of blue and white mosaic work. But we cannot delay to enjoy all this charm and beauty.

Rabat is governed by a peculiar political system. It is under the protection of France. The representative of France directs all the machinery of government in the city and district, but a semblance of authority is still possessed by the Pasha, who is appointed by the Sultan.

This city of Rabat, you may already know, is the Imperial City of Morocco, and here dwells the Great Caliph of this part of the Mohammedan world. Of the 30,000 people who dwell here the great majority are, of course, followers of the Prophet of Mecca.

It is Friday, the day of the weekly prayer in the beautiful Mosque of Rabat. We will stand between the

palace and the sacred temple and watch the holy procession go by. The hour has struck, and through the Palace Gate march the Household Guard, with tri-colored uniform of blue and red and white. The famous Black Guard immediately precedes the Sultan, who once a week rides in state for all his people to see. A lane is made through which the Great Caliph may pass, and, be sure, no Christian dare draw near the narrow enclosure. The waiting crowd seems small to-day, for it is widely known that the potentate formerly so mighty has been shorn of his civil power. The populace dearly loves success in its heroes, and the fading splendor of the Sultan has damped the ardor of his followers.

The band is playing, and we see drawing near us the Sultan's coach of glass and gold, drawn by a pair of spirited high-bred horses. The Grand Vizier, who is the Sultan's prime minister, and all the lesser ministers, ride behind on humble mules. The Sultan's Chamberlain and household, all Moors with bowed heads, come next, duly mounted. Everyone in the procession is clothed in immaculate white raiment. Now from the rear of the Mosque appear a body of musicians, in long robes of many colors. At the Royal Gate of the Mosque they stand, ready with their fifes and drums to give a fitting welcome to the successor of Mohammed.

Through the glass door of the royal coach at length emerges the figure of the Sultan. Attendants stand by the wheels of his carriage, driving away the flies from his sacred person by waving scarfs of white muslin. Into the Mosque moves swiftly and noiselessly the white-robed throng of worshippers, the Black Guards remaining outside on the entry steps. A crier from a high pinnacle on

the wall above calls pleadingly on all men everywhere to pray now to Allah.

During the half-hour of solemn worship, which we cannot join, we depart from the Mosque and its ancient ceremonies and make our way back through the long white street and out through the ancient gate down to the freedom and freshness and joy of the Sea which links us with the modern world.¹

¹ Acknowledgments are hereby made to Florence Fisher, a recent traveller in Morocco, and to V. C. Scott O'Connor, author of "A Vision of Morocco," for a few details contained in this chapter.

THE FORBIDDEN CITY

THERE is in the heart of Asia a wonderful city, which until recent years no foreigners except the Chinese were permitted to enter. It is true that an Englishman named Manning, over a century ago, reached Lhasa, where he resided for a few months, but not until 1904 did any other Englishman see this sacred city of Tibet, "The Seat of the Gods." To the British expedition under Col. Younghusband we are indebted for the fuller knowledge we now possess of that strange capital of a most strange country.

For some years news had been reaching the British authorities regarding the ill treatment, and even torture, to which British and Indian travellers were subjected by the Tibetans, and of the hostile intrigues going on between Russia and the government at Lhasa. In 1903 a peaceful mission left India and entered Tibet. When it was found that the Tibetans would listen to no protests from the British envoy and even would not negotiate with him at all, it was decided to send an armed force right through to Lhasa. A full brigade of 2,800 rifles under Brig.-General R. L. Macdonald then set out towards the north, along with the government envoy, Col. Younghusband. The stirring story of that journey on "The Roof of the World," with its bloody incidents, cannot be narrated here. What the members of that mission saw when they reached Lhasa is our immediate concern.



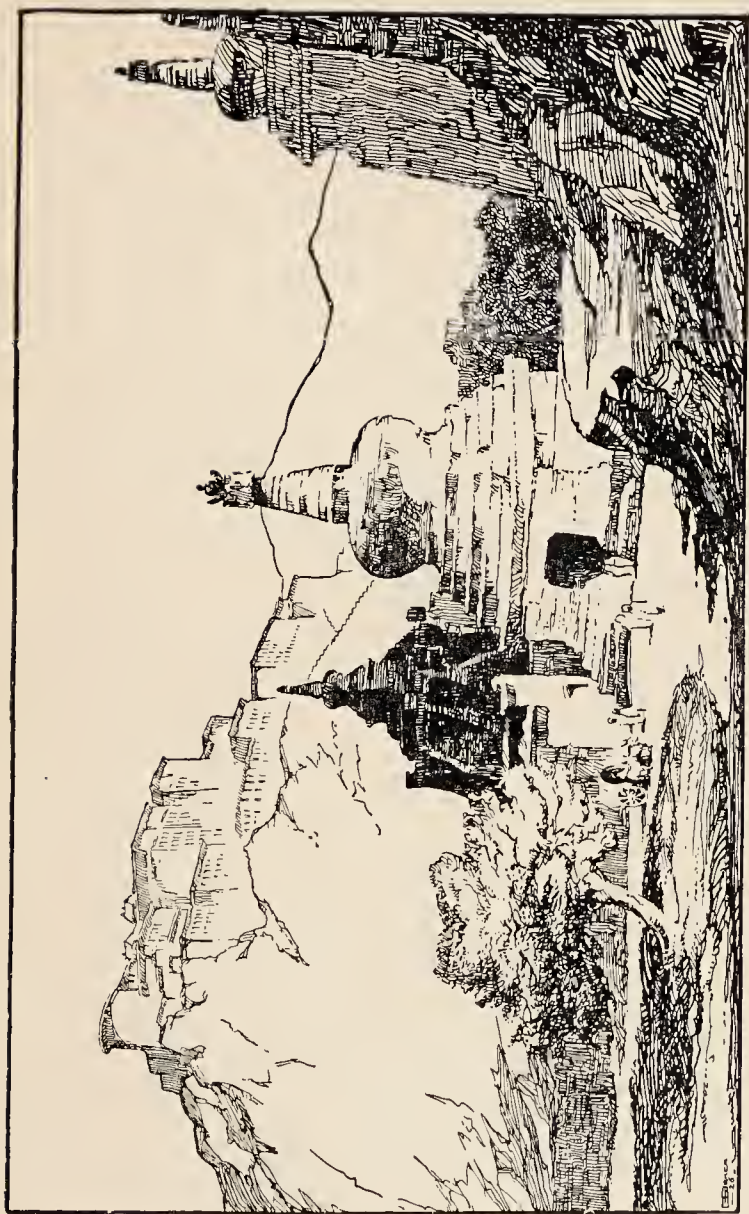
COLONEL YOUNGHUSBAND AND THE AMBAN.

52 STRANGE CORNERS OF THE WORLD

They did not see that mysterious potentate, the Dalai Lama, for he had fled to China as the mission approached the city. They saw his gorgeous palace, and, indeed, the final treaty was signed in the throne-room of that palace on Potala Hill.

As this Dalai Lama is the very head and front of all things Tibetan, we must learn more about him before we start out to inspect his city. His title, Dalai Lama, means "The Lama whose Power is vast as the Ocean." His power is, indeed, remarkable, but it has strict limitations. While he is regarded as the re-incarnation of the great Buddha, and is by all venerated as a god, still the great lamas who surround him and the Chinese "amban" (commissioner) who appoints and controls his Council, have more real power than His Sacred Majesty. In fact, his own position and his own term of life and influence depend on the high-priests who surround him. It must often give the Dalai Lama hours of disquiet when he remembers that his three immediate predecessors all died mysteriously at the age of eighteen, and were succeeded by regents, who performed the duties of the priest-god until a new Dalai Lama could be found and consecrated.

And how is a new Dalai Lama found? On the death of Buddha's vicegerent on earth, a studious search is made by the Supreme Council of Monks throughout Tibet in order to find a boy baby who was born at the instant, or immediately after the instant, when the Dalai Lama died. When such a babe, the re-incarnation of Buddha, is found (and he must be found within two years), he and his father and his mother are removed to Lhasa. The mother's services are soon dispensed with. The father,



THE POTALA, OR DALAI LAMA'S PALACE.

however, is provided with a royal residence and has the title of "Duke" conferred upon him. The youth is carefully guarded and trained till he is eight years old, when he is duly consecrated and installed as Chief Monk and Head of the Church.

The present Dalai Lama, whose father was a wood-cutter, looked forward with alarm to the fatal age of eighteen. Having a mind and spirit of his own, when he was eighteen, he fled to China and thus escaped the taking off which doubtless awaited him. A few years later he returned and took firm control of affairs. As there were two parties among the high-priests, he took good care to ally himself with the stronger party.

When the British reached the city in 1904, the fugitive Dalai Lama was twenty-eight years old. We cannot now follow in his flight this thirteenth re-incarnation of Buddha, for our present object is to inspect the wonderful city from which its sacred ruler has fled. When, on August 3rd, 1904, the British expedition reached Lhasa, the Chinese Amban, "Minister of State," came out with elaborate ceremony to meet the representatives of King Edward VII. Next day Col. Younghusband entered the forbidden city to return the visit. It took five full weeks to bring to time the dilatory and obstinate Tibetans, and then, on September 7th, 1914, a treaty was signed, establishing friendly relations with India and the British and guaranteeing fair treatment in the future for all British subjects.

The British Mission found that the Chinese Amban is the real head of the Tibetan Government, as it is he who selects three laymen and one monk to constitute the

Great Council, over which the Dalai Lama, or the Regent, presides. The treaty of 1904, in fact, acknowledged China as the sovereign state which controls the national policies of Tibet.

The city of Lhasa is built on a beautiful site in the midst of a fertile plain. It is surrounded on all sides by mountains from 3,000 to 6,000 feet high. Groves of glorious trees here and there lend beauty to the landscape. In the city itself the eye rests everywhere on majestic public buildings. Of these the most remarkable is the royal castle of the Dalai Lama on Potala Hill.

The Dalai Lama's palace faces the east. The vast structure with its stately architecture covers the side of a steep hill from top to bottom. The masonry of the building is buttressed by retaining walls, some sixty feet high. The central portion of the palace, of a dull crimson color, crowns the summit of the hill. Golden pavilions are seen upon the roof. The flanks of the structure are of a dazzling white on sunny days. Great stairways lead from the main entrance below to the summit of the hill. In the foreground to the east are orchards, parks, and gardens. The palace is so gigantic that it is nearly a mile in circumference. It is defended on three sides by its steep walls and on the fourth by a menacing cliff. In the palace dwell five hundred monks. At the highest section of the roof there runs a spacious promenade for the Dalai Lama, from which he looks down, as a god, upon the upturned faces of the worshipping throng five hundred feet below. The city of Lhasa is small, only half a mile from end to end. The streets are narrow and unpaved. The houses, all with flat roofs, are built of brick or stone.

They are never more than two or three storeys high. Although the white-washed exteriors lead one to expect much, one glance at the filthy interiors drives the visitor to the open air. Every house, it is said, has its shrine and



PRAYER-WHEEL.

its prayer-wheel. The oldest prayer-wheels have the prayers written by hand. To make the supplication effective, charms are tied to the chain by which

the wheel is moved. On nearly all wheels will be found some bit of turquoise which is thought to possess a mystical quality.

Besides the Potala Palace the other public building most worthy of special notice is The Cathedral, the greatest shrine in Tibet. Pilgrims flock hither from all Tibet, from China, and from Mongolia. As the building is buried among the narrow streets, it does not attract the eye from all parts of the city, as does the dominating grandeur of the Potala Palace.

The whole country of Tibet is dotted with monasteries, usually built on lofty hills. Many of these sacred buildings are of gigantic proportions. The one near Lhasa, "Depung," is the largest monastery in the world. It is five hundred years old. It has within its boundaries 8,000 monks. At Depung the present Dalai Lama has a palace where he lives for a short time every year.

The life of the great colony of monks at Depung is fairly representative of what may be seen in any of the countless monasteries of Tibet. There are four orders of Lamas,—the red, the yellow, the white, and the black. The red are the oldest and most numerous, the yellow coming next. The white and the black are the craftsmen

in the monasteries, working at painting, printing, pottery, and ornamentation. They are also the cooks, the water-carriers, and the shepherds. The lamas extort money from their ignorant worshippers on any pretence. They lend money at high rates of interest, payable monthly, the penalty for non-payment making the debtor a slave of the monastery. Every monastery has at its head a Grand Lama, whose powers are supreme. All the lamas claim to be infallible, but travellers have nevertheless found most of them cruel to the verge of inhumanity, and frightfully dishonest.

Of the 30,000 persons living in Lhasa 20,000 are monks of one order or another, or retainers of these monks. The rest of the inhabitants are mainly women. A few children may be seen in the streets, almost naked in the summer heat. Very few old people are to be seen. Indeed, people nearly always die before middle age in this baleful and insanitary land.

The visitor is attracted to the Market Place to see the motley crowds, clad in outlandish costumes and in all the colors of the orient. Monks in ruby robes trail along. Common people, clad in purple none too clean, gossip in groups. An occasional rich man stalks by in gown of blue or yellow. A few Mohammedan traders wear white turbans. Folk from Nepal are there, distinguished by their fair faces. Utter barbarians in skins of wild beasts shamble among the hucksters. Chinese in gowns of indigo show by their bearing that they are masters in the city. A few townswomen in silks and loaded with jewels attract, and try to attract, the attention of onlookers. All these people, whatever their nationality or condition, swirl

prayer-wheels or count rosary-beads while they are chatting or trading.

The chief industries of Tibet, besides those connected with the flocks and the soil, are these: (1) Weaving from the famous fine wools of the country. (2) Making earthenware and wooden porringers. (3) Making incense, of which great supplies are needed. As for the rural Tibetan, he is a born nomad, shifting his dwelling with the seasons. His home is wherever he can find pasture for his sheep, or for his yaks,—those great oxen with long silky hair and bushy manes.

Both the food and the drink of the Tibetans are disgusting to Europeans. Their chief beverage is "buttered tea,"—a soup or broth made of tea leaves boiled in butter with balls of dough. This "tea" they drink at all hours of the day. It is interesting to note that tea in Tibet is sold in bricks of about four pounds in weight. The package is composed of pressed tea leaves and twigs, rolled in yellow paper. Such precious packages in the absence of regular money afford a convenient means of exchange. The Tibetans have no bread such as we use. They eat scones made of wheat or barley meal. Their favorite dish is a stew of meat and many vegetables. Tibet has no drunkenness as all the native brews are quite mild and harmless.

The medical notions of the Tibetans are foolish in the extreme. The college course in the great medical school of Lhasa requires eight years' study, which consists mainly in learning long formulas by heart. Some of their notions are quite original. They teach that a woman's heart is in the middle of her chest. They distinguish three separate pulses in each wrist, and determine the

nature of a malady by examining carefully the six pulses. However, the average Tibetan relies for the cure of his ailments more on prayer and incantations than on the diagnosis of the specialist. As all diseases are, they think, caused by evil spirits, no cure can be found till these foul spirits are driven out.

All Tibetans believe in oracles. When they wish to look into the future, they consult monks and hermits. There is, in fact, a great national Oracle in Lhasa, with a high priest and one hundred assisting monks. These priests, it is firmly believed, can foretell future events, stay storms, drive out devils, and even raise the spirits of the dead.

And what of the women of Tibet? They are much fewer in number than the men, and accordingly many women have two or more husbands; that is, *polyandry* is common. The women are much braver than the men and, as a rule, more sensible. It has been said by many travellers that you never see a pretty or a good-looking woman in Tibet. Whatever nature has done for them, they make themselves repulsive by smearing their cheeks, noses, and foreheads with ill-smelling grease to prevent the skin from cracking in the winds of that high plateau. Many women are shepherds, driving and caring for great flocks of sheep. For defence, they carry slings in their hands, and they can hit a mark at a great distance with their small sling-stones. Of course, many of the women of the country are nuns, as there are almost as many nunneries in the country as there are monasteries.

And these are the Tibetans who were so lately regarded as the most religious people in the world. Now we know that they are the most debased and superstitious, and per-

haps the most unhappy people of all lands. They are quite 6,000 years behind the march of civilization, in their government, their morals, and their social life. The glamour and romance of mysterious Tibet is now dispelled and we know the benighted people for what they really are. We shudder at their dreadful condition and wonder by what process their poor lives can be made more wholesome for them.

But perhaps Providence is working in a way which man's devices could not find out. The agent selected by Heaven for the salvation of Tibet may be that Dalai Lama who in 1904 stole out of his palace by night and was borne off in his palanquin on the road to China. After an absence of four years he returned to Lhasa and boldly seized control of the government. In 1909 the Chinese drove him out as unmanageable and he fled to the British in India, where he lived for two years under the kindly care of the nation that he dreaded in 1904. He was in less than two years re-instated by China under the instigation of Britain. He has ever since been strongly pro-British. He has long been regarded in his own country and throughout Asia as a ruler of conspicuous ability. In the Great War he showed his attitude towards Britain by offering a thousand Tibetan troops, and he informed the King of England that all the lamas throughout Tibet were praying for the success of the British arms! He is now over fifty years of age, having survived the perilous age of eighteen by over thirty years. He is a rigid celibate of most exemplary habits. Indeed, in most respects he is the greatest of all the line of Dalai Lamas.

A SEA WITHOUT A SHORE

THERE is a sea in the midst of the ocean which has proved for two thousand years a mystery and a menace to sailors. The Greek philosopher, Aristotle, had heard of this strange sea and had remarked on its perils; for had not Phoenician mariners long before his time brought back from their Atlantic voyages stories about great fields of sea-plants destructive to ships? A certain merchant of Cadiz, early in the fifteenth century, had sent a galley a hundred leagues westward, and the east wind had swept the vessel to this region of weeds and calms, from which it had with much difficulty freed itself and had returned to send a warning throughout Europe: "Beware of the Western Sea!" It remained for Columbus to explore the mysterious waters and on his return to make a full report to his royal patrons.

The Sargasso Sea stretches over thousands of square miles. It is bounded by 20° and 28° North Latitude and by 40° and 80° West Longitude. Its extent is not stable, for winds and ocean currents contract or expand its area. While they are, to a certain extent, fed by *Algae* from the Caribbean Sea and the Gulf of Mexico, these "pastures of the ocean" have had an independent existence for countless centuries and are self-propagating.

Columbus had heard of the Sargasso Sea before he left Palos, and so he was not surprised when he plunged into it that September day. He had been moving west in that current now styled the "Canaries Current," when he

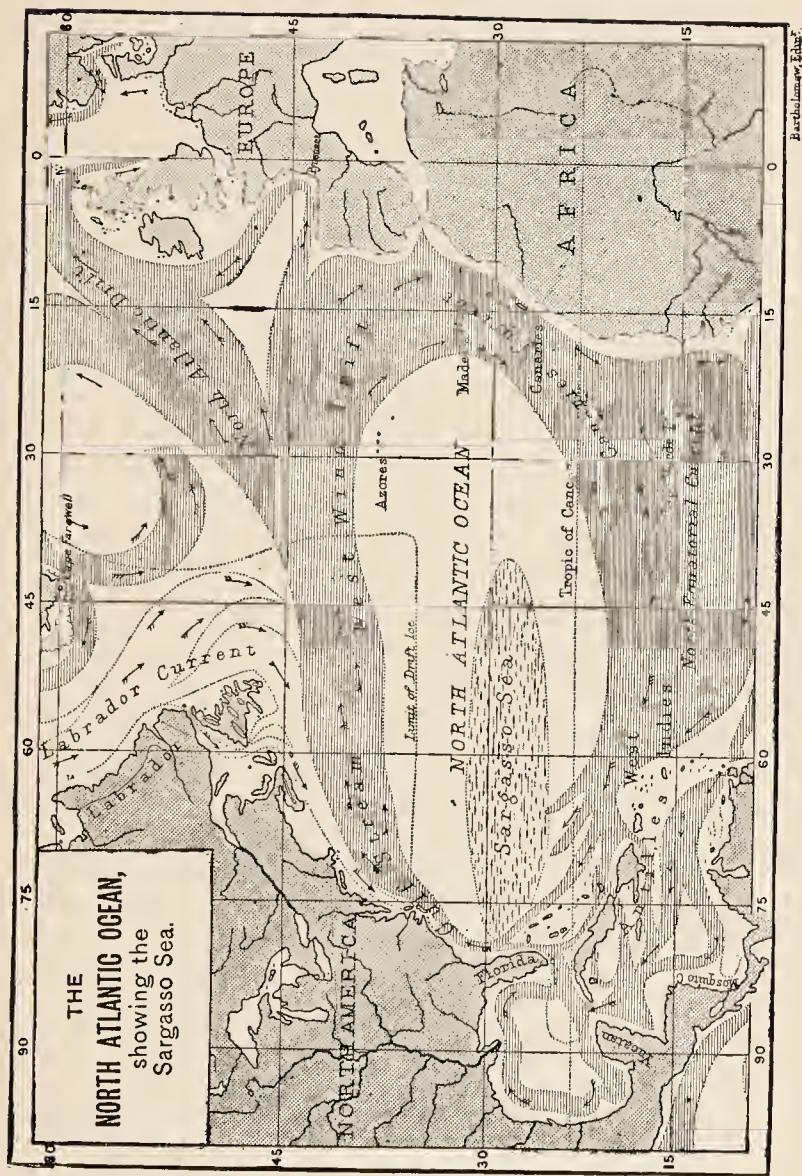
62 STRANGE CORNERS OF THE WORLD

reached what he called "The sea-weed meadows." The weeds grew thicker and thicker (so runs his record) until the ships could hardly make any progress. On all sides spread out what appeared to be a green level plain. The crews began to murmur and they said that the place was enchanted. They declared that the weeds would soon hold them so tightly that they could never escape.

The patches of herbs and weeds seemed to them to be drifting from the west, as green as if recently washed from some land toward which they were moving. On one patch it is recorded that they saw a live crab! Then they saw numerous birds, and innumerable tunny fish played in the weedy waters about them. The seamen feared that they were sailing into shallow waters and they dreaded lurking rocks, shoals, and sandbanks. Columbus, accordingly, took soundings with a line two hundred fathoms in length, and he could not find bottom.

The great Adventurer himself was troubled by the peculiar action of his compass needle. It no longer pointed to the pole star, but towards the north-west. No navigator then knew that the north Magnetic Pole was situated where it is, twenty degrees from the North Pole, in what is now Northern Canada. Columbus tried to keep his alarm to himself, but when his pilots saw the vagaries of the needle they were in a panic. The very laws of Nature appeared to be changing for them. Columbus invented reasons to account for the unusual movements of the compass. He told them—a true scientist without knowing it—that the direction of the needle was not to the polar star, but to some fixed and invisible point!

They had had perfect sailing till they were baulked

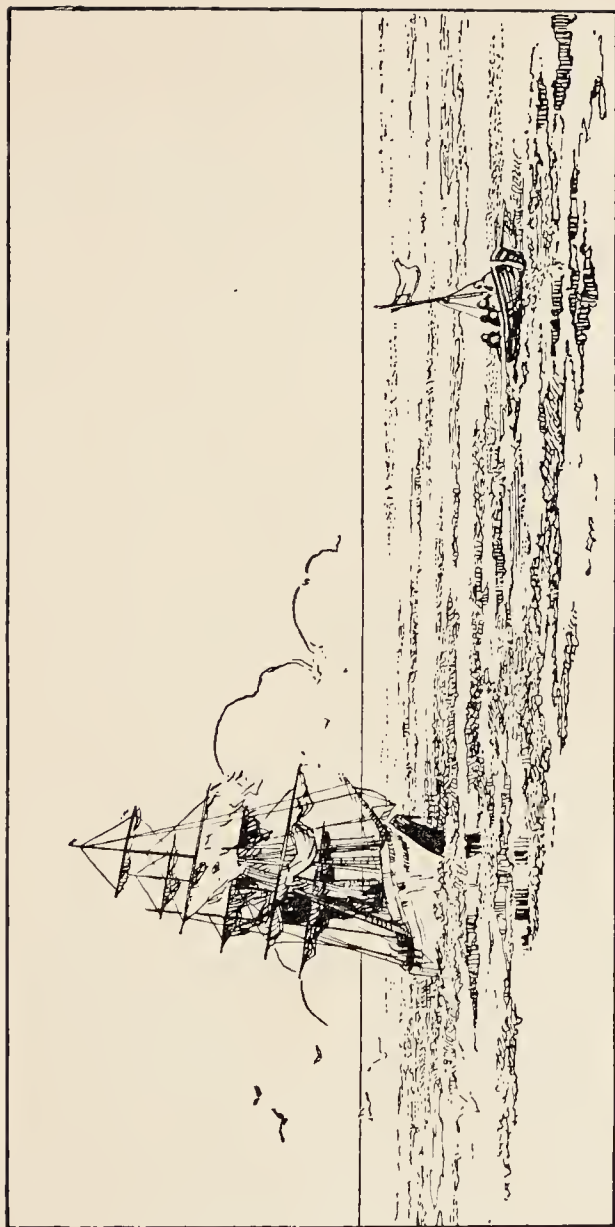


by the Sargasso Sea. The Trade Winds had blown aft for days and never had they been obliged to shift a sail. Now they were held here by this sea covered with weeds as far as eye or glass could survey. A vast inundated meadow it seemed, and onward the ships ploughed with difficulty. The sailors agreed that all these miles of weeds had been torn by the currents right up from the bottom of the ocean!

The sun shone gloriously and the weather was wonderfully calm and mild. Birds perched upon the rigging and sang all day, as if in green fields on land, thus cheering the hearts of the despondent sailors. After a time the ships came out into a clear space where the water was like a mirror and torpidly still. The seamen then had a new fear,—that they were destined to end their days in these stagnant waters. The impatience of the crews rose almost to a mutiny. Then, at this crisis of the voyage, and fortunately for all, a breeze came out of the south-west. Columbus and his men were now able to escape from the meshes of the Sargasso after threading its entangling waters for almost a fortnight.

The next authentic report regarding the Sargasso Sea was written by the Dutch traveller, Van Linschoten, just a hundred years later. In 1594 his quaint record runs thus:

“Then we entered into the Sargasso Sea, which is all covered with herbs, so that it seemeth to be like a green field; and so thick that a man cannot see the water, neither can the ships pass through it, but with great labor, unless they have a strong wind. The herb is like samphire, of a yellow color; and hath berries like gooseberries, but nothing in them. The Portuguese call it *Sar-*



THE SARGASSO SEA.

gasso, because it is like the herb *Sargasso* that groweth in their wells in Portugal. It is not known whence it cometh: for there is no land nor island known to be near that sea, but the coast of Africa, which is 400 miles from thence. It is thought that it cometh from the ground; and yet there is no ground in that place to be found. In sailing to India the ships come not into that sea; for then they keep closer to the shore, so that it is not once seen: and it is not found in any place but there from 20° to 34° N, so thick and so full, as if they were whole islands, most strange to behold. At 34° N. we saw no more of the *Sargasso*, but a fair clear sea."

In December, 1872, the British Government sent out the famous ship "Challenger" on a three years' voyage of oceanic exploration. Captain (afterwards Sir) George Nares was placed in command. Professor (afterwards Sir) C. Wyville Thomson and Mr. (afterwards Sir) John Murray (a Canadian) were on the staff. In C. W. Thomson's Report on the voyage is found a full account of the many interesting features of the *Sargasso* Sea.

The "Challenger" made a full circuit of the sea and kept very complete records. The floating islands of gulf-weed were found to be mostly small, from 8 or 9 square yards in area to several acres. They rightly surmised that there would be larger islands near the centre of the Sea.

The weed lies upon the water in a single layer. It has no organs of attachment, but floats freely on the surface of the water. The weeds are not matted together, but float singly. Each tuft has a central brown feathery branching stem, studded with air cells, or bladders, on short stalks. Most of those near the centre of

the tuft are dead and coated with a beautiful netted white polyzoon. After a time the vesicles so incrustated break off, and where there is much gulf-weed the sea is studded with these little separate white balls.

A short distance from the centre of the plant, towards the end of the branches, the serrated willow-like leaves begin,—at first, brown and rigid, but becoming, farther on in the branch, paler, more delicate, and more actively vital. The young fresh leaves and air vesicles are usually ornamented with the stalked bells of an herbaceous plant that twines about them. The general color of the mass of weed is thus olive in all shades, but the golden olive of the young and growing branches predominates. The general effect of a number of such fields and patches of weed is abrupt, and yet in harmonious contrast with the oceanic lanes of intense indigo which separate them!

These floating islands have inhabitants peculiar to themselves. The fauna of the gulf-weed, through centuries of "color-mimicry" have assumed, for protective purposes, the complexion of the plants about them. To deceive the sharp-eyed sea birds above them and the equally sharp-eyed voracity of the fish around and beneath them, they imitate the form and the coloring of their floating habitat. For instance, little short-tailed crabs swarm on the gulf-weed, corresponding exactly with the color of their surroundings. They not only imitate the colors of the weed, but they are also blotched over with white, absolutely indistinguishable from the white patches on the weed itself. These crabs have a remarkable instinct as to the value of their habitat. They never swim free of the weed, which by its color and shape protects them from their enemies. If you separate them from

the weed which is their dwelling place, they hurry back, in a wild desperate struggle, to their familiar and secure surroundings.

The sinister fame of the Sargasso Sea was completely swept away in 1910, when Sir John Murray, of "Challenger" fame, was sent out by the Norwegian Government to make further explorations. He found that the Sea is situated very nearly in the centre of the North Atlantic "Whirl." That is, there flows forever around it the Gulf Stream, the West Wind Drift, the Canaries Current, and the North Equatorial Current. Accordingly, the Sargasso Sea is a product of its environment, and of necessity lies where it does, and functions as it does,—or rather fails to function and looks as if you could walk on its olive-green surface. Moreover, the belief of ages, that the Sea is "the graveyard of the Atlantic," is now known to be as false as it is ridiculous. We are now fairly sure that few ships have been wrecked or stranded in these quiet waters. Indeed, the Sargasso Sea is probably the safest region of the whole Atlantic. Sir John Murray also discovered that the Sargasso Sea is covered with gulf-weed only in patches, and that great areas of the formerly dreaded tract are entirely free of the weed, as they probably always have been.

KING WILLIAM'S ISLAND

WEST of Boothia peninsula and 1,400 miles due north from Winnipeg lies an island very famous in the annals of exploration. Somewhere on the west shore of that island lies the wreckage of a British ship, and in the icy waters near by the wreckage of another; for in this region, in 1848, were deserted by the perishing crews Her Majesty's Ships *Erebus* and *Terror*. These two celebrated ships, with 129 officers and men, had left England in 1845, victualled for three years and furnished with every appliance and convenience then known. One year before the vessels were abandoned, on June 11th, 1847, Sir John Franklin, the commander of the expedition, had died, and during the three following years cold and famine destroyed every member of those gallant crews. As late as 1850, two years after losing their ships, forty of the wretched sailors were seen by Eskimos dragging a boat southward over the ice along the west shore of King William's Island. Twelve years after Franklin's death, on the west and south coasts of King William's Island were discovered skeletons and remains of articles that suggested a tale of awful suffering and final disaster.

The Eskimos who inhabit the polar islands of Canada are of three types,—the Greenland, the Alaskan, and the Central. Those in the region of King William's Island are of the central stock, and naturally they retain more of the original traits and customs of their race than do

those who touch the fringes of civilization in the east and the west.

The Eskimos of these northern islands live during the winter in houses of snow, and during the summer in tents of skin. Their food is mainly supplied by the seals which they harpoon when the animals come up through holes in the ice. The musk-ox, too, is valued for its flesh, but this great creature is now not often seen in these parts.

In winter the people of these northern wastes move about on dog-sleds; in summer they have a curious hunting-boat called a *kayak*, which transports their equipment, their women, and their children, from point to point and from island to island. It must be remembered that the Eskimos are nomads, and so have no permanent homes. This year a family may live happily in King William's Island, and next year it may be found in Boothia to the east, in Victoria Island to the west, or far southward towards Hudson Bay.

But we must now approach the real subject of our chapter. We are visiting King William's Island, not to study the ways of the natives, nor to investigate further the movements and the mournful fate of Franklin and his heroic comrades. We desire rather to examine now the climatic conditions of this remote island of Canada, which by its rigors has been so cruel to many generations of explorers and which will always prevent any determination on the part of Canadians or others to make a permanent settlement here. Furthermore, we shall try to visualize at different seasons of the year the movements and phenomena of the sun, especially during the long bright summer and during the dark dismal winter.

For the purposes of our study let us take mainly two



ESKIMOS IN SUMMER.

periods of the year,—the summer solstice, and the winter solstice. Our observations will thus deal with contrasting conditions of climate and sunlight.

On Midsummer Day a curious situation is seen in the heavens. At noon the sun in this latitude has risen to a height about half way up to the zenith. We dwellers in the south would therefore expect the luminary to set early in the evening. But King William's Island is well within the Arctic Circle and there will be no sunset on this day. At midnight the sun will still be several degrees above the horizon and will bear the designation common among Arctic travellers, that is, "The Midnight Sun." For ten days before and ten days after the 21st of June there is perpetual sunlight in this high latitude. Then, about July 1st, the sun goes down for a few minutes each midnight. Accordingly, on this island at midnight sunset, midnight, and sunrise come right together. For three weeks thereafter there is daylight throughout the twenty-four hours. This gives to King William's Island two months of perpetual daylight during the summer. By the end of July the midnight twilight has vanished and there is a short period of darkness. This darkness grows longer and longer as August comes and advances.

During the bright long summer days the warmth becomes too uncomfortable for hunting or fishing, and people sleep from 9 A.M to 6 P.M., and then begin the day's activities. Another reason for turning night into day is the keen glare of the sunlight upon the ice at mid-day, which is prone to injure the eyes.

A strange circumstance in the lives of the birds of these Arctic regions may be noted. They settle down for their



ESKIMOS IN WINTER.

daily rest as the sun approaches the northern heavens. They puff out their light feathers, stand on one leg, push their heads under their wings, and go to sleep. During the bright day, while the Eskimos are sleeping, they go hunting for food.

The isotherm for June in this region, according to the official Canadian maps, is 40° . That is, the average day and night temperature in King William's Island during June is forty degrees. The great ice-floes on the chilly water keep the summers cool, although the rays of the sun at mid-day are sometimes keenly warm. However, as there are only four or five clear days in a month, the natives have not much to complain about in the matter of excessive sunlight.

As to the condition of the ice in this island during June we are well informed. There is firm going for sledges at the end of that month, although the summer thaw begins in May. The ice in the straits and inlets does not thaw till July. By August 15th all melting ceases.

And what are the conditions in King William's Island at Christmas? Almost the reverse of those just described. The sun does not rise at all! At mid-day the sun is nearly three degrees below the southern horizon, and there is only a bright twilight in that direction. In the first week of January the sun rises for a very few minutes at noon and then sets for an absence of twenty-four hours. At this time of the year sunrise, noon, and sunset come almost together. The temperature during December is rigorous in the extreme. The official isotherm for the whole month is thirty below zero for the twenty-four hours. This means that a temperature of minus 50° or 60° is common for the darkest period of the winter.

Two episodes may be inserted here dealing with (1) the departure of the sun in November at the approach of winter, (2) the re-appearance of the sun in February. An Arctic traveller (Mikkelson) thus refers to the former occasion:

"It is as if we had lost a dear friend. We look for the sun at noon to see if it will show itself once more above the horizon, but we look in vain. The sky is reddish-gold; the highest peaks catch for a moment the last rays of the sun that still can reach them; then the splendid color fades, and we know we have seen the last of it for a time."

The occasion of the re-appearance of the sun is an exciting moment for natives and travellers alike. The gradual brightening of the twilight at noon prepares the eager Eskimos and their chance visitors for the glorious days of advancing Spring. At last one day, about 11.45 A.M., someone shouts, "The Sun! The Sun!" Then all turn their eyes southward and exult as they view their long shadows sweeping past them towards the north! Some of the Eskimos have a Sun-Feast to celebrate the re-birth of the sun after the tedious period of darkness.

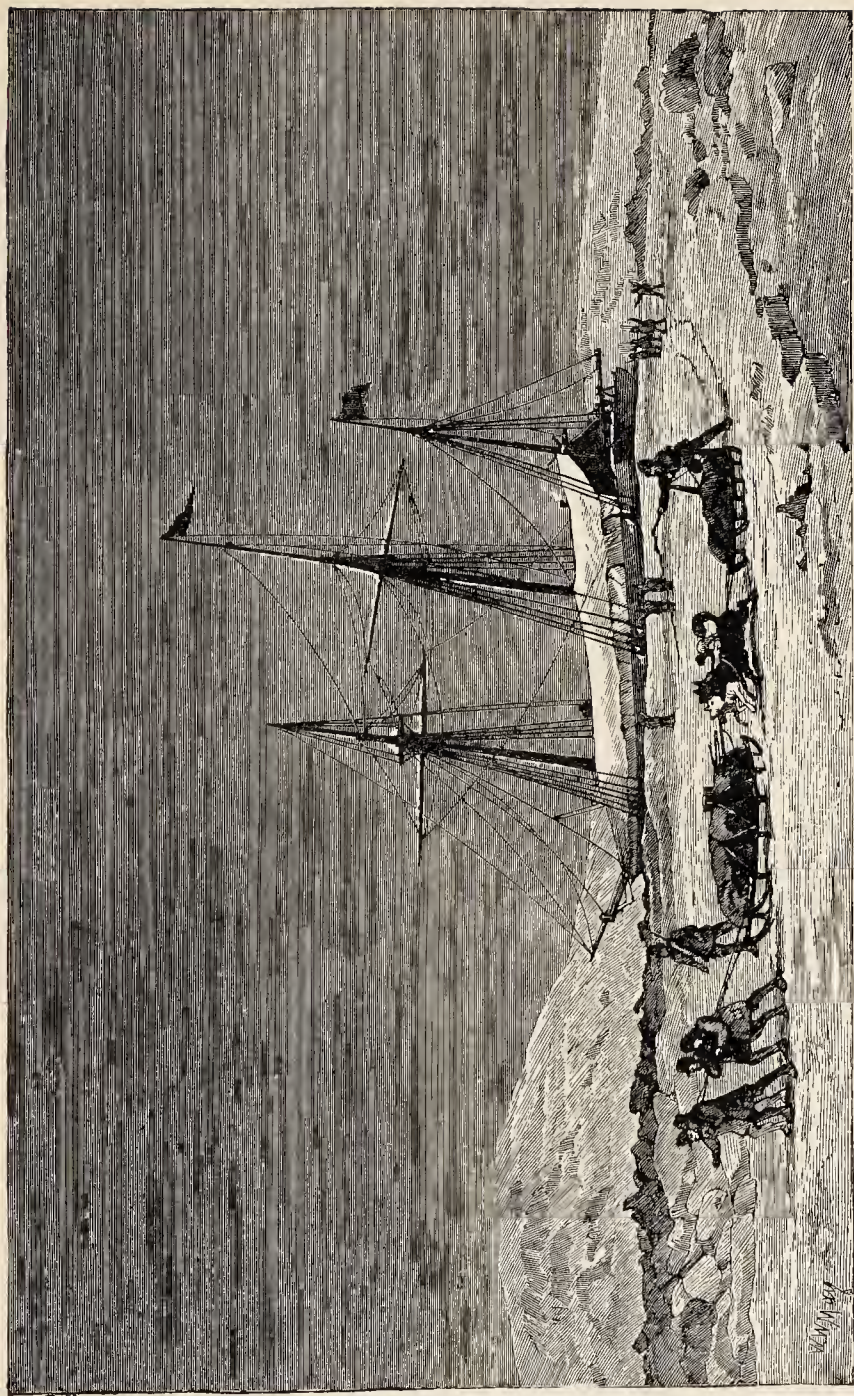
In King William's Island we are in the region called the "Magnetic North." The island was once King William Land, for on the old maps, such as Franklin used, there was no strait marked between King William and Boothia. In Boothia Peninsula (lat. 70°, long. 97°) lies that strange centre towards which the north pole of all mariners' compasses points. Yes, all sailors must depend on King William's Island, or, to be more precise, its next-door neighbour, Boothia, for guidance in their wanderings. Whether the mariner is navigating the waters

of Baffin Bay or the Gulf of Mexico; whether he is in mid-Atlantic or in mid-Pacific; whether he is struggling with the winds of the Bay of Biscay or the Bay of Bengal, his trusty compasses look towards a magnetic point in northern Canada for safe direction.

It is interesting here to recall the fact that the Magnetic North Pole was determined in 1831 by a traveller to these coasts,—Sir James Ross. He left on King William's Island a huge cairn of stones which has been visited by several travellers, including, probably, Franklin and his associates. It was this same Sir James Ross who commanded the Antarctic Expedition (1839-1843) in the "Erebus" and the "Terror,"—the very ships which conveyed Franklin's crews in 1845 and which now lie at the bottom of Victoria Strait to the west of our island. It was, too, the same Sir James Ross who commanded the first Franklin search expedition, for he knew these ice-fields well, as he had already visited King William's Island no fewer than five times.

Before we leave this historic island let us recall the visits to this remote place of two other great explorers. Sir George Simpson passed this way in 1839, and the strait to the south of the island is called after him "Simpson Strait." He, too, built a large cairn on the island, which Franklin's men in their wanderings must have seen.

Yonder near the Magnetic Pole, in 1857, Sir Francis M'Clintock encountered a small band of Eskimos, one of whom had on his dress a British *naval* button! Next morning forty-five Eskimos visited him for the purpose of barter. They sold to him the following relics of Franklin: six silver spoons, six forks, a silver medal, a



M'CLINTOCK'S EXPLORING PARTY STARTING FROM THE *Fox* IN SEARCH OF FRANKLIN.

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gold chain, knives made of the iron and wood of the wreck, and bows and arrows fashioned from the same material. Yonder on the west coast M'Clintock's party also found pick-axes, shovels, compasses, a medicine chest, and a heap of clothing four feet high.

After all is said about this interesting place, we leave it with the feeling that it should be called Franklin Island. The Dominion Government, however, has honored the great explorer in another way. All of Canada within the Arctic Circle is now named "The Provisional District of Franklin."

On a cenotaph in Westminster Abbey are these lines of Tennyson's:

"Not here! the white North has thy bones; and thou,
Heroic sailor-soul,
Art passing on thine happier voyage now
Toward no earthly pole."

WHERE BLACK RULES WHITE

IT WAS Christmas morning in that strange island. A Christmas tree had never been seen by the natives, nor had Santa Claus ever paid a visit to that warm region. A few whites, whom the natives call *blancs*, had some years before come to the island, and they had decided that it was high time that the black children of the principal town of the island should for once have a Christmas tree.

All through the hot day these kind whites made their preparations. A band of blacks, belonging to the best dusky families of the town, gave their aid, clumsy though it was, in order that everything might be ready for the ceremony of distributing the gifts at five o'clock in the afternoon. A small pine-tree had been brought in from the country and had been planted firmly in the public square. A grand stand of very limited size was erected, and the parents and their children had been invited by free tickets to be comfortably seated there at the hour named. Messengers had been sent far out on all the roads leading to the city to spread the glad news. Mothers, young and old, and piccaninnies of all juvenile ages were soon, in city squares and along country lanes, in the seventh heaven of excitement.

One of the benevolent whites was planning to act as Santa Claus to the swarms of black urchins who were expected. But Santa Claus had reckoned without his customary wisdom. Although five o'clock was the time

distinctly named on the invitation tickets, the crowd began to gather at two o'clock. By three o'clock a thousand little black hands were reaching out for presents. Most of these early comers had no tickets, but the startling tidings which had spread like a prairie fire set everybody in motion. By four o'clock it appeared that the whole island must be there, or at least as much of it as rumor had reached.

A ragged crowd it was! In the broiling heat of the day they poured in, clad in next to nothing. Mere tatters covered their nakedness; and many of the ebony babies were quite bare of clothing. More than ten thousand dusky faces, a full hour before they had been expected, were rolling their big white eyes, looking greedily towards the platform for the appearance of this outlandish being called Santa Claus. The excitement became so tense and the calls from the black mass so loud and so continuous that one of the black committee-men foolishly threw a handful of presents into the middle of the crowd. A wild scramble followed. The swarthy throng pushed and jostled towards the Christmas tree. All the black committee-men then began to toss presents among the crowd. There was no semblance of order after that. No attention was paid to ticket-holders, and indeed those who held no tickets had the advantage, as they were nearest to the piled-up gifts on the platform. It was a wild game of grab and clutch. Presents of every kind, as long as they lasted, were showered forth,—shoes, stockings, hats, shirts, suits, collars, ties, cloth, gowns, candy, toys, cakes, all fell to eager hands under and around the platform. One boy who wore no shirt seized a neck-tie.



A HIGHWAY IN HAITI.

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Another boy whose feet had never known a shoe bore off a pair of stockings. Starving babies who needed bread and milk received embroidered blouses. The "gentlemen of color" on the platform, in a frenzy of delirium, caught up whole armfuls of gifts and pitched them to the shrieking mobs beyond the ropes which enclosed the public square. When the stock of gifts was entirely gone, there were many little darkies waving their worthless tickets, and calling in their crude French for candy, for cakes, for shoes!

Thus came to an end the first Christmas festivities ever held in the town of Port au Prince, in the island of Haiti, and that in the twentieth year of the twentieth century.

And where is this island of a dark-skinned race, so ignorant of modern manners, although their language is little removed from the polite speech of highly civilized France? And what of the strange history of this remarkable island?

No other small island in the world has drawn to its shores so many men of mark. No other island has been so often the scene of terrible bloodshed. No other island has changed owners so many times under the stress of war. No other land has been so badly governed by its many rulers. Of all its bad rulers the worst, it must be said, are the present race of blacks, who for over a hundred years have tried the vain experiment of ruling themselves and of excluding all whites from their domains.

It is more than four hundred years since Christopher Columbus, on December 6th, 1492, first saw the island of Haiti. He thus describes the Indians whom he found there: "All have loving manners and gentle speech. Both

men and women are of good stature. They are not black. Their houses and villages are pretty." Columbus much delighted the young chief of the island by giving him a beautiful quilt, some gold beads, and a pair of colored slippers. On the morning of his second day in the island the great admiral learned with much concern that his own ship of a hundred tons, the *Santa Maria*, had drifted ashore in the night and had been completely wrecked. Columbus built a fort in the island. Then he decided to leave there for a year some of his men, including a carpenter, a tailor, and a doctor. As the admiral left the island, his two ships fired a salute, which so frightened the poor Indians that they fell on the ground in deadly panic.

A year later Columbus returned to Haiti only to find his fort destroyed and every member of his colony dead! Some had perished of disease, but most of them had been killed by a tribe of savage Indians from the mountains of the interior. The destruction of Columbus' men was a sad prelude for the coming years and centuries, for the shedding of human blood through four hundred years was to make this island infamous. When Columbus first visited Haiti, about a million Indians dwelt there. Inside of forty years nearly all the natives had been destroyed by the rods and the swords of the Spaniards.

The island of Haiti was Columbus' head-quarters during the period of all his four voyages to the New World. He called the island Hispaniola. The city he founded there in 1494 he called Isabella.

The third voyage of Columbus to Haiti ended for him in an inglorious way. The governor sent out by the king

of Spain to rule Haiti quarrelled with Columbus, arrested him, and then sent him back to Spain in chains.



COLUMBUS LANDING ON HISPANIOLA.

(From an old engraving.)

A short time after his fourth voyage to the island Columbus died, in 1506. His son, Diego Columbus, was soon appointed by the king as the governor of the island; and he ruled so well that he was retained in that post for eighteen years.

On four occasions this little island was visited by the discoverer of the New World. It was destined to shelter his bones for two hun-

dred and fifty years, for his body was brought from Spain in 1542 and buried in the cathedral of San Domingo, a city in that island. When the French obtained possession of Haiti in 1795, Columbus' ashes were removed to Havana in Cuba, then a colony of Spain. After the Spanish war with the United States, the coffin of the great adventurer found a final resting-place in the cathedral of Seville in Spain.

Three famous sons of Spain, who all lived in Columbus' day, made their homes for a time in Haiti. Cortes,

the conqueror of Mexico, dwelt there as a young officer for seven years. Balboa, the discoverer of the Pacific, was a farmer there for eight years. Pizarro, whose name is always associated with the conquest of Peru, lived in Haiti in his early manhood. Samuel de Champlain, when he first crossed the Atlantic in 1599, was drawn by the lode-stone of Haiti on his way to the mainland of America. His personal description of the island contains this interesting passage: "No foreigners are permitted to traffic there, and those who do, run the risk of being hanged or sent to the galleys. The king of Spain gives freedom to any negro who can discover a foreign vessel, and there are negroes who will go a hundred and fifty leagues on foot, night and day, to give such notice."

This mention of negroes calls us back for a moment to an earlier time. In the very year of Columbus' death the sugar-cane was introduced into the island of Haiti, and negroes from Africa in great numbers were brought in to cultivate the cane. Sugar soon became the chief product of the island. As the Indian population was gradually destroyed by their cruel masters, the black population rapidly increased. To-day ninety per cent of the population of two million and a half are full-blooded negroes. The other ten per cent is made up of mulattoes and a small sprinkling of whites.

The most dreadful of all the dreadful happenings in the history of Haiti was the massacre of 1803. When Napoleon was engaged in his European wars, the negroes of the island declared their independence and within a few weeks killed everyone who was not black.

For over a hundred years no whites were allowed in the island. Black president succeeded black president with

alarming rapidity. Some ruled ten years; some, five; but most of them, after a brief rule of a year or two, were removed by poison, by dagger, or by pistol. The world has never seen such misrule and such misery as under this succession of black rulers in Haiti.

In 1915 affairs had become so horrible that the United States seized control of the island, or at least of the western part of it. The blacks are still allowed to carry on their government, and the "Black Republic" still exists, but the rulers are held strictly to account if they transgress the decencies of modern life.

The language spoken by the negroes of Haiti is called *Creole*. It is a corruption of French. The laws, the customs, the main traditions of the island, are still French. The richer blacks send their children to Paris for their education; and when these educated negroes return to their island-home, they assume the air of very superior persons, and will not mingle with the wretched classes below them. They become the judges and law-makers of the island, but their refinement is only superficial. If the Americans were again to withdraw, the same carnival of disorder and disaster would be repeated.

While the whole island is still called Haiti, it is now divided into two parts. The "Black Republic" is the western third of the island. The larger eastern section, which broke away from the Haitian Republic in 1843, is called Santo Domingo, or the Dominican Republic. Even in this region negroes have often ruled, the most famous of them, Ulises Heureaux, for seventeen years, until in true Haitian fashion he was assassinated.

We cannot take leave of this tropical island without paying a brief tribute to the great author of "The Three

Musketeers." Alexandre Dumas was the grandson of a Haitian negress named Dumas. For some reason the famous novelist assumed the name, not of his father, but of his black ancestress. The strain of dark blood appeared plainly in the features of the noted Frenchman, and some of his qualities of style may be traced to an ancestry which for centuries dwelt in the romantic island of Haiti.¹

¹ For the story which begins this chapter credit should be given to Harry A. Franck, author of "Roaming through the West Indies."

THE HIGHEST MOUNTAIN IN THE WORLD

FOR more than seventy years Mount Everest has enjoyed the honor of being the loftiest mountain peak in all the world. Before 1852 many others had successively usurped the honor. At one time travellers in South America claimed to have seen the world's highest peak in that western continent. Later, one peak after another in the Himalayan Range was called, for longer or shorter periods, the highest peak.

There are, it is now definitely known, at least eighty separate peaks in the Himalaya which are above 24,000 feet high, Aconcagua, the highest point of the Andes, being only 23,060 feet. The height of Mt. Everest was long placed at 29,002 feet. Later measurements have increased that figure by a hundred feet or more.

The name Everest goes back to the date given above, 1852, when Sir George Everest was Surveyor-General of India. Under him a complete survey was made of northern India, including every individual peak of that gigantic range of mountains which stretches between Tibet and India for a distance of more than 1,500 miles. The famous peak had long been styled "Peak XV," when one day an excited official came running in to tell Sir George Everest that "XV" had been shown by the instruments to be the highest peak of all.

Almost seventy years after that day of naming had gone by before an endeavor was made to organize an expedition to reach the summit of Mt. Everest. In the



THE SUMMIT OF MOUNT EVEREST.

long interval the peaks of the Alps claimed the attention of climbers; then the Caucasus, the Andes and the Rockies. About twenty-five years ago, at the beginning of the new century, men began to look with longing eyes toward the peaks of the Himalaya. One summit after another of the long range was conquered, till the Duke of Abruzzi reached, in the Karakoram range of the Himalaya, Peak K², 24,600 feet high, which remained the record till 1921.

Lord Curzon, when viceroy of India, had suggested to the Royal Geographical Society of London the project of scaling Mt. Everest. Only two routes of approach were possible,—one through Nepal, and the other through Tibet. The road through Nepal was not available, as the Nepalese rulers do not allow Europeans to enter, much less to go across, their country. They are as exclusive to-day as they have been for centuries. The rulers of Tibet, on the other hand, while difficult to influence, have not for many years been absolutely hostile to the British, or even unreasonably suspicious.

In 1919 Captain Noel urged the Royal Geographical Society to begin planning the ascent of Mt. Everest. In 1920 Sir Francis Younghusband, the noted explorer and historian of Tibet, entered into negotiations with the government of India with a view to arranging with the Tibetans for freedom of passage through southern Tibet for a select company of British mountaineers. After permission had been formally obtained, an expedition was organized by the Royal Geographical Society and the Alpine Club of London.

Mt. Everest lies on the exact frontier between Nepal and Tibet. It was therefore decided that the expedition should enter Tibet from the south-east and make a re-

connaissance in the summer of 1921. The high plateau of Tibet, 12,000 feet above sea-level, would take the adventurers more than two-fifths of the way up towards their lofty goal.

The world has now a complete story of that wonderful adventure of 1921, told by Lieut.-Col. Howard-Bury, and other members of the first expedition. This is no place to recount that thrilling story, as we are mainly concerned with getting a close view of this remote corner of the earth. Suffice it to say that after ample preparation the expedition set out in high hopes for India. Baggage animals, guides, coolies, supplies, and equipment of all necessary kinds, were collected, and the adventure began from Sikkim in May. The route lay behind the main chain of the Himalaya, almost due west.

After a month's journey they established a base camp and pushed south-west, with the great peak now clearly in view. It was learned from some natives of Tibet, whom they met near at hand, that the peak was called by them, "Chomo-Uri," the "Goddess of the Turquoise Peak." Others later gave it another name, "Chomo-Lungmo," or "Goddess Mother of the Mountains."

It was a beautiful and thrilling sight which all the company surveyed on that lovely evening of June 19th, 1921. The unconquered mountain was magnificent with its striking contour and the delicate and ever-changing hues of its icy cliffs. Hundreds of feet below they could see forests and rivers and lakes, to which the setting sun lent a fairy-like beauty. But it was the gigantic peak, with precipitous sides and snow-sprinkled summit, which riveted their gaze. That was their objective, and every man of them must forget the glories of the lower

altitudes and mount higher and higher, however strenuous the toil and however dangerous their zig-zag, rough, and ever colder journey.

By August 2nd little progress had been made. Glaciers and impassable crags seemed to block every approach. At last a height of 20,000 feet was reached by two of the climbers. They studied the character of the peak itself and of the numerous glaciers and valleys of the mountain side. It was clear that Mt. Everest is a great rock mass, coated with a thin layer of white, powdery snow, perennial snow resting only on the lower slopes. The wind at the height attained was keen and very cold. Occasionally it was noticed that a mad tempest was revelling on the high peak, for the light snow was seen to be whirled by the blast to the height of a hundred feet above the topmost pinnacle.

In September the weather became bad and at the end of the month a council of the leaders was held, when it was decided that it would be extremely perilous to remain any longer at so great a height. They were soon struggling back to their starting point, and thence to England.

This preliminary trial had proved that any second expedition must start much earlier in the year than May, and must early assault the mountain by the best route already ascertained. The question of transport and equipment must also receive far greater attention.

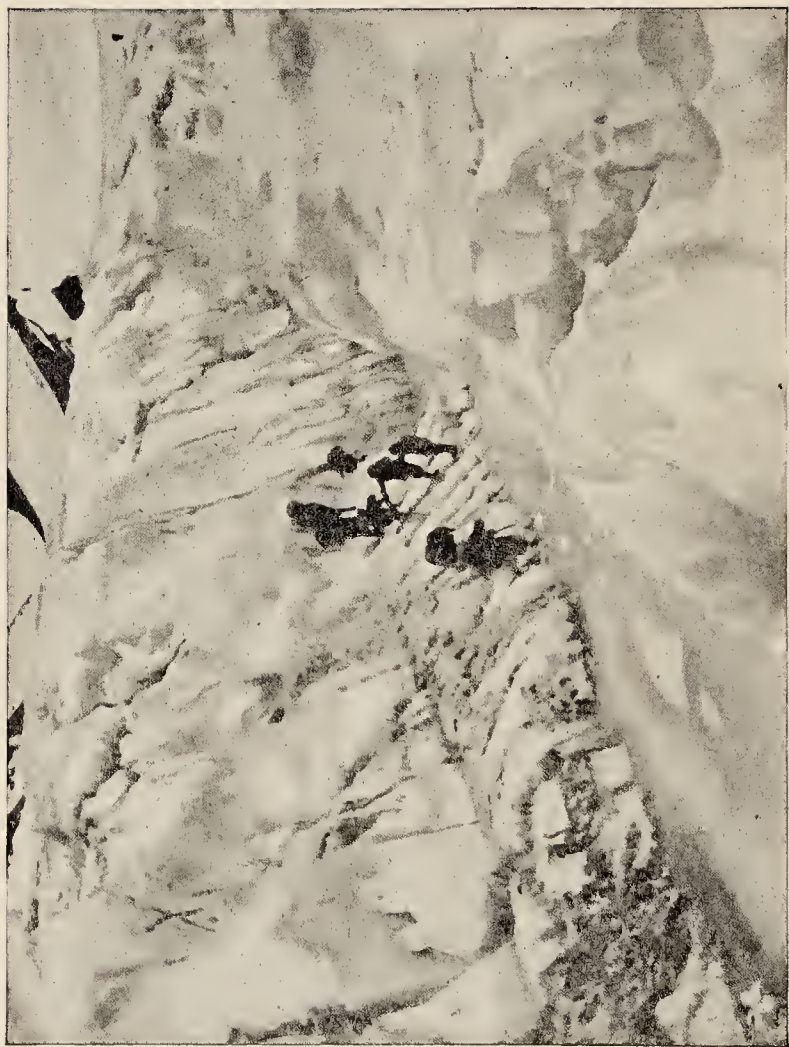
In 1922 a second expedition left England bound for Mt. Everest. For leader it had Brig.-General the Hon. Charles Granville Bruce, C.B., author of "Twenty Years in the Himalaya." The climbers were four experienced mountaineers. The new expedition was stronger in num-

bers, in experience, in all the varieties of equipment, and in supplies. They carried with them, too, for use in very high altitudes, a great store of tubes containing oxygen.

The party reached the advanced base of 1921 before the monsoon broke, and thus they had reason to hope for early success. By the middle of May two of the climbers were engaged in new reconnaissances. The whole expedition made excellent progress and kept establishing new advanced camps every few days. By the 20th of May the nine coolies accompanying the party began to suffer from mountain sickness. The cold was most intense. A bitter wind blew in their faces from the west. The laborious work of cutting steps in the steep ice slopes began. Soon a height of 25,000 feet had been reached. At that elevation a new advanced camp was made. Of the four seasoned climbers one had now a frozen ear, another had three frozen fingers, another was chilled to the bone and not quite capable of effective exertion.

After a night of discomfort three of the adventurers kept on upwards, the fourth being sent back to camp. The ledges of the mountain now seemed to block them by tilting the wrong way. By a slow, winding course, however, they steadily progressed. They gained a spot from which they had a clear view of the very summit, and their instruments told them they had reached a height of 26,800. They decided to return to camp, but they had many narrow escapes on the way down. Once all three were in danger of slipping into a crevasse, when a rope saved them. At last, after perils manifold, the four climbers descended to their safety zone.

The brave fellows did not give up the quest. A second



ON THE RONGBUK GLACIER.

attempt was made in 1922 to reach the summit. This time they took with them their oxygen, stored in light steel cylinders flung over their shoulders.

On May 25th three climbers and twelve porters, all carrying oxygen, reached a height of 25,500 feet, where they established their camp. It was blowing and snowing hard. It was impossible to sleep, as the spindrift blew in at every opening in the tent, and the tent itself appeared at times in danger of being blown down to the glacier below. The next day the storm abated, and the climbers decided to try once more a short ascent of a few hundred feet. That night they secured a little sleep by using oxygen.

On the morning of the 27th of May two climbers and a Gurkha attendant started out again, carrying forty pounds each of equipment and supplies. At the height of 26,000 feet the Gurkha collapsed, was relieved of his weight, and was sent back.

The two intrepid climbers soon passed the former record of 26,800 feet. But by bad luck the wind rose, and an ugly ridge now faced them. It was hard to find good footholds anywhere. Nevertheless, the two crept on over treacherous slopes, using up their precious oxygen as they advanced. Soon the aneroid declared a height of 27,000 feet. Their hope of reaching the peak that day increased. When they had gained a level of 27,300 feet, the top of Mt. Everest seemed very near. They were only half a mile from their goal, and only 1,700 feet of elevation had yet to be traversed.

Could they make it? Weak with hunger and the perils of the last two days, the two haggard men realized that it would be foolhardy to go on. They were brave enough

to be discreet, and with profound disappointment and regret they turned back to join their companions below. They soon discovered how near death they had been. Their knees knocked together and their feet again and again failed to respond to the call of the will. Often they staggered like drunken men but they helped each other along. At last, on the point of utter exhaustion they reached the advanced camp and found the returned Gurkha sound asleep, wrapped in all three of the sleeping-bags. When the party of three reached the lower camp, it was found that the feet of one of the two who had gone so far were badly frozen. The other brave fellow was sound in all respects.

A third expedition for the conquest of Mount Everest started from Darjeeling on March 26th, 1924, under the leadership of Brig.-General Charles G. Bruce, who had headed the adventure of 1922. Like the former trials, it ended in failure and disappointment, although there are many who believe that the two brave climbers who never returned to the base-camp may have reached the summit and met with their doom on their way back. Whether the Tibetans will allow a fourth British expedition to pass through their territories remains to be seen.

The secret of Mt. Everest has been solved, but the actual victory over all difficulties remains yet to be won. There is a way to the top of this highest of mountain peaks, and some brave person will yet doubtless plant on that peak, over 29,000 feet high, his country's flag.

WHERE CANNIBALS DWELL

ON THE 23rd of December, 1923, a horrible message was flashed over the world from Sydney, New South Wales, to this effect:

In Dutch New Guinea, while engaged in a shooting expedition four hundred miles inland; G. P.—, a miner born in Canada, was killed by natives. In the hunting party were thirty Papuans, of whom three were killed and seven were wounded. The three Papuans who were killed were carried away by the savage spearmen *and eaten*.

The impression that cannibalism had ceased to be practised in the world has long been wide-spread, but the cable news here quoted supports the testimony of many travellers that brutish men are still indulging an appetite which civilized men everywhere abhor. Not only in Papua but also in Central Africa and in some of the islands of the South Pacific the custom of eating human flesh still stubbornly persists. One comfort we have,—the Fiji Islanders and the Maoris of New Zealand, who less than a century ago were inveterate cannibals, now detest the terrible doings of their grandsires. While the most recent reports appear to give to Papua (New Guinea) the evil pre-eminence in this crime, it is generally agreed that for the blackest authentic records regarding such practices we must go to the New Hebrides. Those who are interested in such matters will gain full information in the numerous volumes which have been published describing life in these islands. John G. Paton,

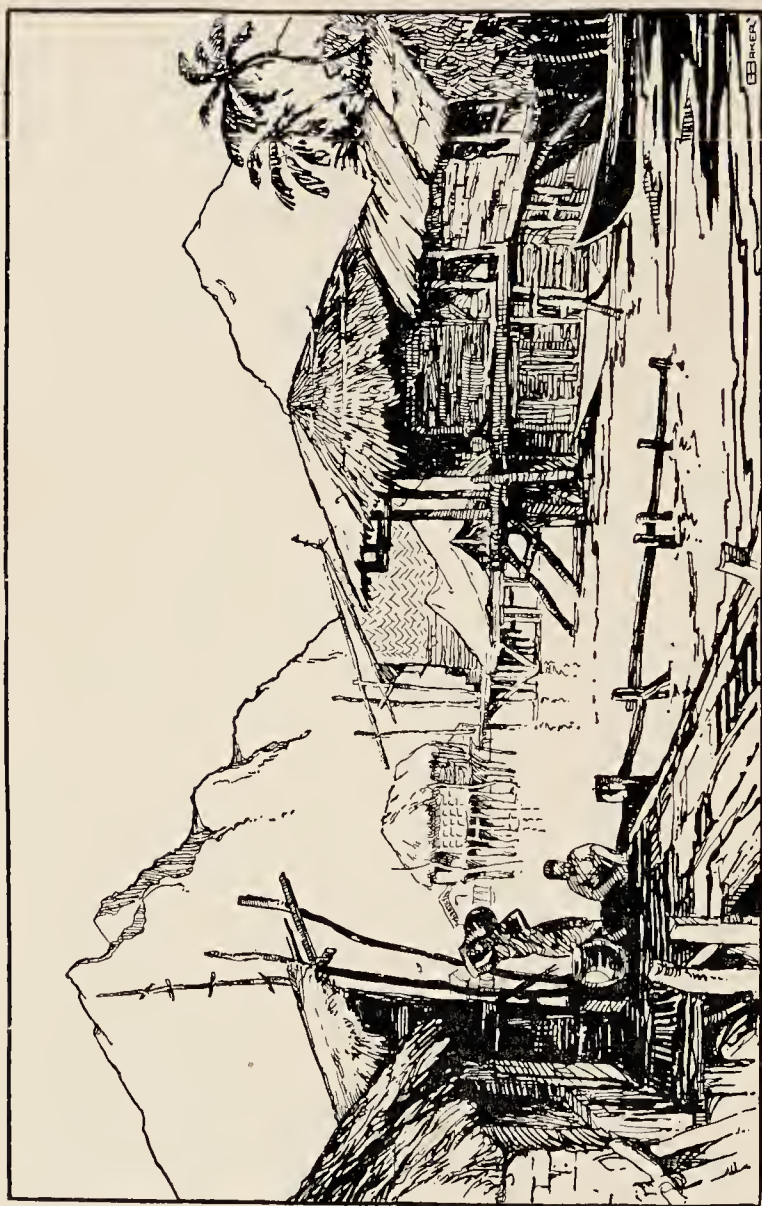
the saintly missionary, lived forty years (1858-1899) in the New Hebrides. In his autobiography he tells of many instances of cannibalism that came before his notice in Tanna and Erromango, two of the southerly New Hebrides. While the shallow writers of civilized lands were repeating their grim jokes about the roasting of missionaries, this holy man was engaged in his brave struggle against the forces of evil in the very heart of the cannibal regions; and on more than one occasion he fought the degraded men, with both spiritual and material weapons, and saved himself and his devoted wife from becoming the victims of their satanic plots.

We are now to take for our guide to the South Seas a courageous Irish woman, Beatrice Grimshaw, who early in the present century determined to go alone to the New Hebrides to find out for herself the real habits of those ill-famed islands. After a visit in Fiji and in Australia she set out from Sydney, New South Wales, in the month of September, 1905, on the monthly steamer which called at New Hebridean ports. Before approaching the recital of her experiences in Malikolo, it will be well to learn a little more about these beautiful but terrible places.

There are about thirty-five islands in the group. The New Hebrides were given their name by Captain Cook in 1773. The present population in all is about 70,000. About a third of the number have been more or less influenced by the civilization and morals brought to them by the missionaries. The others retain still, in varying degrees, their primitive notions and customs. They practise polygamy in its grossest forms. Until the arrival of the missionaries they lived almost naked. Even now they wear more decorations than raiment. The dress of

the men consists of a mere cartridge belt of woven fibre. Most of them have a boar's tusk round the neck, a ring in the nose, a pig's tail or a shell in each ear, and on the arm a bracelet of shells. They still retain the cruel practice of killing off the weaker infants and also the aged parents. Widows are nearly always put to death and buried with their dead husbands. The men's chief occupation is fighting, their chief weapons being bows and poisoned arrows. As might be expected, they are fierce and treacherous in the extreme. They have no real religion, but they believe in sorceries and omens and pray to the spirits of the dead. The French and the British have made settlements in some of the islands and have there inspired a measure of fear, but there are still many wild tracts which it is dangerous to attempt to explore.

Malikolo bears to-day the blackest name among all these islands. Of the thirty-five it is the second in size, seventy miles long and thirty-five miles wide. It has probably about 20,000 inhabitants. Its natural charms are very remarkable. Its beautiful hills, some 2,000 feet high, its long fertile valleys, its clear lakes and streams of pure fresh water, its excellent natural harbors, all tend to make travellers who coast around it, or spend a day at one or other of the mission stations on the coast, hope for the time when it may become one of the paradises of the world,—a land of plenty and of peace. At present, while "every prospect pleases," most of the men are vile indeed. The longed-for golden age which may still come to these New Hebrides appears to-day far distant, for stories of cruelty and cannibalism are told of many of them, and most of all when Malikolo is mentioned. It is true that the natives are not quite so bold in their



A VILLAGE IN THE NEW HEBRIDES.

wickedness as they were thirty or forty years ago. They still display no shame in proclaiming their liking for human flesh, but they think it best to keep the vile practice away from the gaze and the knowledge of white visitors.

To Malikolo, the very head and front of cannibalistic offenses, let us now repair. We are fortunate in having as our gentle guide the bravest, perhaps, of all modern women travellers, and the author of a dozen books of travel in many lands,—Beatrice Grimshaw. Her journey from Sydney, New South Wales, to the New Hebrides took eight days, as the steamer was slow and the distance is 1,400 miles. Only two other passengers took passage for the islands. After calling at Vila, the headquarters of the French, who hold the island with a feeble grip, the Australian vessel made for Malikolo. The officers and her fellow travellers tried to dissuade the adventurous woman from landing. They told her she would probably be shot and eaten. She was not to be shaken from her purpose, however, and she landed at Sou'-West Bay. The missionary there told her she would be comparatively safe if she remained at the coast; but to the interior white men, and of course white women, dared not go.

No one is expected to die a natural death in the island. Poison and witchcraft carry everyone off, witchcraft being the cause of all fatal maladies. So every man is in constant fear of losing his life, and so every countenance appears sullen and frowning. Women are treated very badly in Malikolo. It costs a black scoundrel from ten pigs to twenty-five to purchase a wife, but once bought she is the bond-slave of her mate for ever. "About the little mission house at Sou'-West Bay," our guide de-

clares, "heathenism and cannibalism surge like tides of a stormy sea breaking upon a solitary islet." She says that if any book should tell all the infamy of this island, it would not be fit to print. The interior is a very hell upon earth. Even callers at the ports have had, again and again, the narrowest of escapes.

Miss Grimshaw's appetite for adventure was only whetted by the dreadful stories she heard. She begged the missionary to go with her to a ceremonial dance which he reported was to be held next day at a native village about four miles inland. The two took with them a native youth, one of the missionary's converts, who spoke a little English. Strange to say, they took with them no fire-arms, for it was felt that weapons of any kind would only irritate the natives.

A walk of four miles through a forest region, with no roads and no level ground, a thick canopy of foliage obscuring the light of day, was not altogether cheerful. The trees, it was observed, were towering palms and spreading banyans, all covered thick with garlands of delicate creepers. As they drew near to the village of huts, made of reeds and bamboo, they came upon some young men getting ready for the dance, "clothed in natural impudence and a cartridge-belt." All the men were armed with rifles, which callers at the ports had foolishly sold to them. They were an ill-looking crew, and the unusual sight of a foreign woman did not calm them. As a Malikolan always attacks in the rear, our party took good care not to leave the dusky gallants behind them. These youths stood or squatted in groups, leaning on their guns. They did not move from their places and they displayed only a sullen curiosity, their brows lowering with a menace



NATIVES OF THE CANNIBAL ISLANDS.

of possible deviltry. A group of native women near by seemed terrified at the sight of the visitors. These women were all bent or misshapen from carrying heavy baskets of yams. The curious white woman tried to lift one of these baskets, but when, because of its weight, she let it fall, all the men bellowed with laughter, the women being too serious even to smile.

The occasion of the gathering of the tribe or clan was the annual dance before the yam harvest. The ceremony went on without a pause for hours. Strong voices kept yelling a bedlam chant and strong arms kept beating a gigantic drum,—the idol drum, beaten only on such great occasions. As the women were present in hordes there was no danger, the missionary thought, of a cannibal ending for the festivities, since the women always vanish if killing is planned.

Our party remained for two hours or more, when, feeling that they were not wanted, they began to devise some way of slipping off unnoticed; but not for an instant did the natives cease to watch the visitors with sullen curiosity. At last the visitors decided to withdraw boldly, but they were careful not to turn their backs upon the dancers. They hurried back to the mission station very much faster than they had come.

The following interesting and significant story was told to our guide on her return to the mission station at Sou'-West Bay:

Wala and Rano, two small islands near the coast, had been at variance, to put it mildly, for a long time, scarcely a week passing without bloodshed. One day the British ship, *Pegasus*, called at Wala. The blue-jackets went ashore, and in a few hours brought on board the ebony

chief of the island. After they had scrubbed him well and clad him decently, they took him to the captain. Trembling, he fell upon his knees before the great white chief. The captain asked him to promise that there would be peace in future between Wala and Rano, and that never another shot would be fired. The frightened lord of Wala consented on one condition. Would the white captain grant his prayer? "Any request in reason," replied the British officer. "All I want," said the chief of Wala, "before we settle down to quiet life, is the gift of one man from Rano *to eat*,—just one, no more." He was much surprised and pained at the emphatic refusal of the white chief!

We now bid good-bye to Malikolo and to the plucky woman who has dared to beard the cannibals in their very stronghold. We are not sure that she is always as careful of her own welfare as she might be, for we learn that her present home, where she owns a plantation, is in the cannibal island of Papua, the very island that excited our interest and caused us a shudder of horror in the opening section of this chapter. But she lives in the south of the vast island, and that is under British rule, while the latest tale of man-eating (December, 1923) comes out of the west, where Holland is still struggling with stark barbarism.

THE LAKE OF PITCH

THERE is a fragment of South America which that great continent does not claim. It is literally a fragment,—a section broken off from the mainland by the invading ocean. Opposite the mouth of the Orinoco it lies, across the Gulf of Paria. It stretches two arms, as a recent traveller poetically suggests, back towards the parent shore, as if yearning for the protection and embrace of its mighty mother. This island has the same fauna and flora as the adjacent mainland. Its ranges of hills are plainly a continuation of the continental hills seven miles away. Its natural resources, as we shall see, are duplicated on the adjacent continent, from which it was separated, suddenly or through a process of slow change, countless ages ago. .

The island of our story received its name from Columbus' own lips. In 1498, on his third voyage, he was, feeling his way south, searching for a legendary region rich in gold and precious stones. His adventure had been made the subject of prayers and many vows, for it had been undertaken in the name of the Blessed Trinity. One day a sailor at the mast-head called down to the admiral that he saw land ahead. The gazers from the deck soon descried three mountain peaks rising from a single base. Here then was a wonderful miracle! Their prayers had apparently been answered. So the island received the sacred name of La Trinidad. The three peaks are the



COCOA-NUT TREES, TRINIDAD.

"Three Sisters" of to-day, in the south-east corner of the island.

Trinidad remained a Spanish possession for three centuries, till 1797. In February of that year an English fleet sailed in and landed 8,000 men. The admiral quietly seized the place without a struggle.

Trinidad is, next to Jamaica, the largest of the West Indian Islands. It is magnificently beautiful. Its luxuriant vegetation, its wonderful cataracts, its inexhaustible natural resources, its incredibly fertile soil, make it almost ideal among the tropical regions. It is true that its climate during part of the year is not all that one could desire, especially in the west where the trade wind never comes to temper the excessive heat of blazing sunshine. Nevertheless, the nights are pleasant always, and on the whole the climate of the island merits the epithet of "salubrious" so often applied to it.

But we are not to dwell upon the beauties of Trinidad, nor upon its interesting inhabitants,—including a small sprinkling of Spanish, French, Italians, and, of course, English. The 100,000 coolies from the distant East Indies, and the 200,000 black sons of Africa, have almost no part in our story. We are not even to visit the attractive capital, Port of Spain, excepting in so far as that thriving town is a means of approach to the "strange corner" whither we are bound. A short railway journey from Port of Spain to San Fernando and a twenty mile sail in a gulf steamer bring us to our desired haven of La Brea,—only a mile from the marvelous Lake of Pitch.

The world-famous Pitch Lake is almost circular in form, the diameter being about one mile. It covers 120 acres. Its mysterious depths have never been sounded.

A few years ago an attempt was made to take soundings; but after the tubes had been sent down 150 feet, they became twisted and broken. Even to-day these fragments are coming up at quite different parts. As you look over the black expanse you see everywhere little hills, resembling gigantic mushrooms, which are separated from one another by fissures filled with rain-water. Near the centre of the lake at a spot called "the mother of the lake," the pitch is quite soft under the hot sun and it is often difficult to walk over it without sticking fast. Recent travellers, notably Sir Frederick Treves, tell us that the wild stories about people perishing here, sinking slowly to their doom, are mere cock-and-bull stories. One may, in ordinary conditions, walk almost to the centre of the lake, as Treves did, with perfect impunity. Indeed, a man could wholly sink, he says, "only with difficulty and with infinite patience." It is true that Sir Walter Raleigh's men, in 1595, visited the Lake, caulked their ships with its kindly aid, and then spread weird stories about it. It is also true that Charles Kingsley, in his "A Christmas in the West Indies," speaks of the Lake as "an inferno" and as "a Stygian pool." But all modern visitors without exception unite in declaring that you may wander over the Lake in perfect security, save for the discomfort of wetting your feet in the pools of water which everywhere abound. The asphalt (for it is *not* pitch) is firm and solid enough to support the weight of temporary tracks and their burden of cars, which are operated by the enterprising company that has made this lake the most lucrative of Trinidad's resources. So commercially valuable, indeed, is the Lake that more

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than 100,000 tons of the asphalt, worth ten dollars a ton, are shipped away every year to distant markets.¹ Experts declare that even at that rate of exhaustion the supply will last 400 years.

The asphalt is dug out in chunks with a pick. The fractured edges are clear and bright, resembling the hues of blue flint. The coolies lift each chunk as it is loosened and toss it, without soiling their hands, into a waiting truck, for rails are laid down on the surface of the so-called lake, and cars loaded with the "pitch" may be seen any hour of the day rattling back and forth over the brownish-black surface. If left in one spot the rails soon sink from sight, so that once in two or three days it is necessary to lay a new track. The workmen during the day cut a long trench in the asphalt bed, several feet deep, but when they return to their task in the morning they find little trace of the ditch which they made the day before, the opening in the earth having closed up entirely during their absence of twelve hours. They may, if they choose, and they usually do, dig another trench in the same place as they worked the day before. Accordingly, no pick or shovel can make any permanent hole in this strange tract of black soil, which obeys some hidden influence calling imperatively: "As you were!"

The knobs, or mushrooms, of pitch are constantly moving like the waves of the sea, but with a sluggishness that baffles observation and measurement. The ripples are real, and if you sit an hour or two, taking accurate note,

¹ Many of the devastated roads of France have been restored with Trinidad asphalt.



ON THE SURFACE OF THE PITCH LAKE.

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you will detect these subtle and uncanny movements. The little black hills actually wander from shore to shore! Occasionally a bit of tree-trunk is thrown up, pointing curiously to the sky; then it withdraws to hidden depths, probably never to see the light again. Whether underground forces cause the pitch to rise and sprawl about, or whether the theory of "convection currents" will explain the mystery, science has not yet determined definitely.

The Pitch Lake does not hold all the asphalt of this region. The "pitch" appears to charge the soil of the whole district. It crops up for miles amid the thick vegetation of the jungle. The road leading from the Lake to the sea-shore is unstable and is slowly moving on its asphalt bed, like a glacier, towards the shore. The sandy beach is flanked by bluffs of dull-black masses of pitch. The very boulders and pebbles on the near-by coast at Brighton are wave-polished black lumps of asphalt. On the kindred shores across the gulf in Venezuela are found traces of the same bituminous vein; so it is likely that the black mass extends under the gulf from shore to shore. In November, 1911, a small island suddenly appeared south of Trinidad, only to disappear again within a few days.

The peculiar habits of the asphalt are not entirely due to subterranean forces or pressure, as one learns from the seamen who carry their sticky cargoes to New York or other Atlantic ports. On the short voyage the asphalt in the hold of the steamer is never at rest. When the harbor is reached, it is found that the great lumps are clinging firmly together in one solid mass. So thor-

oughly has the welding process been completed that a gang of laborers must be sent down to the hold to separate it again with pick and shovel after the manner of the coolies who dislodged the pitch only a week before from the wonderful Lake in the South.

TOPSY-TURVY LAND

IT WILL soon be a hundred years since young Charles Darwin, during his five years' voyage on the "Beagle," landed on the peninsula of Malay, then called Malacca, and began his investigations of the flora and fauna of that strange region. He saw much of the west coast, covered throughout its whole length of 500 miles by mangrove swamps. He probably only skirted the east coast with its fringe of graceful casuarina trees, for there is no good harbor for ships on that side, and the monsoon sweeps from November to February down over the China Sea and makes navigation difficult near the firm sandy beach. The famous naturalist found himself in such novel surroundings that he one day declared to his companions that the place was TOPSY-TURVY LAND. Almost on the equator,—for Singapore lies near 1° north latitude,—the peninsula has no seasons—"a land where all things always seem the same." Accordingly, birds will be nesting in one tree and in the next birds of the same species will be moulting. A tree will be loaded with ripe fruit in one garden of a Malay hamlet and in the next garden another tree of that species will still be in the blossom stage. A certain Malay bird, a small parrot, sleeps upside down. A Malay fish has been seen to come out of a hole in the ground and climb up a tree! Doubtless Darwin noted the peculiar habits of certain birds, such as the bustard quail. The female of the species is the larger of the two and the male bird sits on the eggs and hatches

them out while his stout consort does police duty and wards off all possible intruders. The very bees of Malay have departed from the habits of their race. They make honey, but they have no use for it, for they can sip the sweetest of nectar from a thousand blooms every day of the year. The honey-combs, attached to the limbs of trees, get larger every year, at last falling to the ground of their own weight. At the base of many jungle trees there are, therefore, beeswax mines where you can dig up beeswax by the bushel.

Malay is a land of moisture and of rain. While the temperature never reaches 100° Fahrenheit, it does not go below 65° or 70°, so it is never very cold there. The humidity in the lower levels is very oppressive. The land steams and swelters under the fierce perpendicular rays of the sun. The rains of Malay are nearly incessant and they pour in a deluge. There are from 150 to 200 rainy days every year, and the rainfall on the west coast reaches a total of 120 inches per annum, and on the east coast 150 inches is the average.

The soil of the peninsula is rich beyond calculation, on account of the decay of vegetable matter through countless ages. The jungles are so dense that you cannot force your way through them without the aid of hatchet or axe. Even the wild beasts must use the well-worn game-tracks. One man with a hatchet could go forward perhaps twenty feet in an hour, if he cared to venture amid the perils of these twilight tangles. Only an insignificant fraction of the vast forest of Malay, thousands of square miles in extent, has ever been visited by any human being. The natives themselves frequent only the banks of the rivers, which from time immemorial have been the

chief routes of travel. In their nomadic tours they never leave the banks of the streams if they can help it, the gloomy jungle is so fearful and inaccessible.

It is not generally known that Malay has the most lavish water-system in the world. Although the country is less than 200 miles wide and is traversed from end to end, for 500 miles, by a high range of hills and mountains, there are rivers, such as the Pahang, and the Perak, nearly 200 miles long. A vast scheme of hydro-electric development has just been entrusted to a British company.

It has been already said that there are no changes of season in Malay. This is due, of course, to the fact that much of the region is very near to the equator; the great central belt is only 300 miles distant, and the southern section of the peninsula is only 100 miles distant. The sun is overhead, or nearly overhead, all the year long. Sometimes his orb is in the northern portion of the sky, and sometimes, indeed for a little longer period, he journeys at noon south of the zenith. Here at night the brilliant zodiac marches past nearly or quite overhead. You do not look for the moon or the planets in the south. You enjoy, also, the high privilege of seeing not only the northern constellations, but also the southern stars and constellations, including Canopus and the Southern Cross.

One cannot see the real Malay in all its native quaintness and wildness by visiting Singapore or Malacca or even Kuala Lumpur, the capital of the Federated Malay States, in north latitude 3° . You can, however, go 100 miles inland by motor car from Kuala Lumpur to Kuala Lipis, the capital of the great state of Pahang, and thence move along the Pahang River towards the eastern coast,

if you wish to see the primeval jungle and its wild denizens. The forests north of the river are crowded with animal life. Before venturing into these gloomy thickets it is well to consider what a typical Malay jungle is like.

Many of these forests have several storeys. First, the topmost storey, with trees that reach up perhaps 200 feet. These giant trees form an almost complete canopy over all the green growth below. Under this storey rise trees whose average height is about 100 feet. Next comes a third storey of small trees and shrubs. Below this is a tangle of low-growing plants covering the floor of the forest. As this type of forest uses every available portion of sunlight, the traveller who threads the woodland paths finds himself even at mid-day in semi-darkness. To complete the scheme of plant life and to intensify the darkness of the sub-sylvan ways innumerable climbing vines spring from the rich mould and make their tortuous journey up and up to the very top of the highest trees.

And the wild animals in these Malay forests would stock a thousand menageries. One cannot see them all in a journey of a few days, nor would one care to meet them all, for there are here beasts as savage as any in the world. A mere catalogue of the creatures which roam within, say, a thousand square miles would fill several pages. The anthropoid apes are represented by three species. One of these, a black monster with a white muzzle, has a reach of the arms extending quite sixty inches. The leaf monkeys are abundant, squatting on high trees, thirty or forty of them in a group, and seldom venturing down to the perils of the ground. In the mangrove swamps, and even far up the mountain sides, formidable tigers range, seeking their prey,—the deer of the woods



TRAVELLING THROUGH THE MALAY JUNGLE.

or the pigs of the settlers. Some of them have exhibited man-eating proclivities. There are here two species of leopard, the lithe black panther being very common. In the depths of the jungles wild cats abound. The small Malay bear, weighing only a hundred pounds, is not to be despised, for he has been known to maul a man considerably heavier. From the swamps of the coasts to the tops of the mountains are to be found huge rhinoceroses of at least two species. Industrious snake-hunters have been richly rewarded in Malay, where there is a record number of 130 species, only a few of which are harmful or poisonous. It is needless to say that the jungles and river regions of Malay are rich in bird life. At least 600 species have been catalogued, including sixteen kinds of game birds. There are 20 varieties of thrushes and 30 varieties of cuckoos.

Perhaps the most interesting of the wild animals of Malay is the elephant, found everywhere but in the extreme south. "Drives" are organized to capture the beasts in order to train them for draught purposes. The huge animals are driven by "beaters" in the desired direction by the blowing of trumpets and the pounding of tom-toms. The elephants are herded by erecting fences which converge into an inclosure surrounded by a very strong stockade. After the drive is completed, a portcullis closes the entrance of the trap. The great beasts often struggle hard, but in vain, to pull down the stockade. Men outside with spears and blazing torches repel their endeavors. Twenty or thirty elephants are often snared at one time in this way.

Of the birds of Malay one of the strangest is the argus pheasant. Almost every hill of the interior affords a

drumming-ground for the bird. If you keep very quiet, you may any day hear the cocks at their queer pranks,—strutting, and dancing, and thumping the ground. No one, however, is privileged to see their performances. At night there ring across the valleys their full strong yells, rousing reverberating echoes. Their cry is answered by all the thousands of pheasants on the nearest hills. Back and forth the sounds are bandied, as if the birds are engaged in a game of tossing tones to one another.

Of the aborigines of Malay there survive only about 2,000. They were a race of “Negritos,”—a people with small bullet heads and very dark, short, frizzy hair. The remnant of these forest folk are nomadic. They live on yams and sour jungle fruits. Fish they sometimes catch in basket-work traps. They never engage in agriculture of any kind; and they never willingly meet other human beings. Their temporary homes are mere leaf-shelters propped on sticks. They are very superstitious, and are terribly afraid of thunder and lightning. They look forward to an Elysium after death,—a happy island where flourish all kinds of luscious fruits.

There is a later race of Malays, about half a million of them, with fair or brown faces, long heads, and straight or wavy hair. They occupy all the hilly country. These people, nearly all of them, adorn their faces with painted lilies or with some geometric pattern. The women of this race are very vain. They wear anklets and bracelets. Ear-rings and brooches and necklaces are displayed on all occasions. Of course, they never go veiled, for they are proud of their features as well as of their numerous cheap adornments.

Modern coastal Malay is well within the current of the

world's trade and commerce. The peninsula yields sixty per cent of the tin used by man. The alluvial deposits of this metal near the Strait of Malacca seem inexhaustible. The most important export crop of Malay, however, is rubber. About thirty years ago the rubber tree was brought from the Amazon region to the rich soil of this oriental peninsula; and now rubber plantations monopolize the attention of thousands of European planters. The trees flourish not only on the coast plains but also among the central hills. The jungle is being slowly crowded back as the invading hordes of civilization and commerce advance with sure and steady purpose away from the streams and up toward the mountains.

A LAND OF FROST AND FIRE

THE contrasting terms, frost and fire, give little indication of the wide range of diverse features which are displayed in the wonderful land we are now about to visit. An extraordinary combination of interesting things attract us to this remote place. Only a few of them shall we be able to see, as a year's residence in the island would be all too short a time for investigating the countless round of attractions.

It will take us three or four June days to go from Liverpool to Iceland in a steam trawler. As we draw near to the fishing villages on the west coast we shall pass 300 fishing-boats that have come all the way from France for cod and herring. Norway and the Faroe Islands have sent their hundreds also. The Icelanders, of course, fairly swarm in their own home fishing waters.

Our first observation after reaching the island concerns the remarkable conditions as to daylight. It is true, the sun goes down in the north for a few minutes at midnight, but as it sinks only a few degrees below the horizon, there is no night in this island during June and July. Even at midnight, under long exposure, you can take a photograph outdoors. The northmost point of the island just touches the Arctic Circle. Accordingly, we are not surprised to learn from the natives that in December and January there is direct sunlight over the island for only a few minutes each day.

The island is of volcanic formation. It is a great table-



THE HARBOR OF REYKJAVIK.
(From a copyright photograph by Ólafur Magnússon, Reykjavik.)

land of about the size of Ireland, built up of volcanic rocks and pierced by fiords and gorges. Only one-fourteenth of the island is lowland, and only one-fourth is at all habitable. The rest is a waste of elevated deserts, hardened lava-streams, and desolate glaciers. The watershed of the island stretches from north-west to south-east, crowned by a chain of snow-capped mountains. Some of the white peaks rise over a mile above sea level.

Over 5,000 square miles of Iceland is covered with ice-fields and glaciers. The largest glacier, Vatna, has an area of 3,280 square miles, and it lies 6,400 feet above the level of the ocean. There are 120 other glaciers in the island. Many of the smaller glaciers slide down not to the sea, but to the lakes of the interior. As might be expected, the ice-fields are mainly in the southern area of the great plateau.

Iceland is a country of two vastly different climates. In Reykjavik, the capital, in the south-west, under the balmy favor of the Gulf Stream, the average winter temperature is as high as 30° , while in the north-east, facing the Arctic Ocean, the average is as low as 19° . In summer the difference between the south-west and the north-east is only 4° , the averages being, respectively, 51° and 47° .

Iceland is a land of fogs. Here meet the warm ocean currents from the south and the cold polar currents, with the natural results. The fogs often produce strange color effects. A recent traveller tells a curious tale as to these ghostly colors. The sun suddenly cast upon the fog bank an elongated shadow of the traveller, with an oval halo of brilliant colors round the shadow. His head was the very centre of the halo; and round the halo shone a

bright golden-yellow light, which gradually changed, in the outer rings, to green, and so on to blue, indigo, and violet; thence the spectrum lines were continued outward in the reverse order, from violet to a brilliant red. These halos are common in Iceland and are known by the name of "Anthelia," or "Glories." Not only on the fogs but also on the ice-crowned peaks, the sun fashions wondrous fabrics of color, ever changing, unsubstantial, bewildering to the beholder. In June the green of the picturesque valleys mingles with the purple of the mountains, the white of the ice-hills, and the rainbow hues of the fogs to produce a glorious pageantry.

Iceland, because of its cold winds, is a land of sparse vegetation. There are no trees, for we can scarcely call by the name of trees those dwarf willows, two feet high, and those beggarly birches, six feet high. Never a field of wheat or oats or barley ripens under the sun in this high latitude. Even in the south-west of the island, where grasses flourish, no grains would ever come to maturity.

The very animals of Iceland feel the rigors of the climate. The ponies, born and bred in these infertile tracts, are very small. However, the stern life they lead makes everyone of the million very hardy. They will go along rugged roads for twelve hours at a stretch and scarcely become weary. They are as sure-footed as they are tough. The million sheep of Iceland, too, are diminutive in size, but Nature grants them a thick fleece to protect them from the blasts of winter.

This bleak island was first settled by monks from Ireland. Just 1,000 years ago the Norsemen came in, driven by persecution from their homeland. When Henry III reigned in England (1216-1272), Iceland was the only



Lómnúpur 53

ICELANDIC PONIES.

In the background is Mount Lómnúpur, from which one has the most beautiful view of Vatnajökul, the greatest glacier in Iceland.

(From a copyright photograph by Ólafur Magnússon, Reykjavík.)

free republic in the world. Before that time, when England was still emerging from barbarism, Iceland had earned great fame for her literary activities. Her songs were renowned through Europe, and her sagas, or prose epics, described in glowing rhetoric the deeds of countless Norse heroes. To-day Iceland is a free sovereign state, ruled by her parliament, called "Althing," and having as king the King of Denmark. The new political status of Iceland began in 1918, just after the Great War.

The population of Iceland is to-day nearly 100,000. A big migration from the island occurred a few years ago. Within the short period of ten years 15,000 Icelanders left the home of their fathers and settled in far-off Manitoba and Saskatchewan. There they are now prosperous and happy cultivators of a soil which yields them such crops of golden grain as their barren lava-lands never knew.

Iceland can boast of having over 130 separate volcanoes, of which 25 or 30 have been in eruption within the historic period. The most noted is, of course, Hecla, 5,108 feet high, about 70 miles east of Reykjavik. It is covered with perpetual snow. The name, Hecla, means "A Cloak," from the shroud of steam which surrounds the summit during eruptions. Hecla has a crater one-and-a-quarter miles in circumference, and about 250 feet deep. This volcano of Iceland has a record of nineteen eruptions since 1108 A.D. Hecla is styled "an active volcano," although it has now been quiet for some years. Within the memory of men now living it has discharged ashes and cinders with such violence and of such a volume that they have fallen in Scotland, 500 miles away. The fires of Hecla are certainly not extinguished, for if

you put your ear to the ground, you can any day hear rumblings and the hissing of steam, from the cold waters finding their way down through the fissures in the rocks to the hot interior of the mountain.

We have left to the last our visit to those remarkable hot springs, or *geysers*, which attract people from the ends of the earth. These springs abound on many parts of the coast. The most celebrated are those about thirty miles north-west of Hecla, where, within a space of a few acres, there may be seen more than fifty. The word "geyser" signifies "fury,"—an apt word to describe the stirring phenomena.

The "Great Geyser" rises from a conical mound of the silicious material deposited by its waters. This mound is about 30 feet high and 200 feet across at the base. At the top there is a basin 70 feet wide and 10 feet deep, in the centre of which the water rises through a crater or pipe, 10 feet or more in diameter. The great basin is always full, excepting for a few minutes after an eruption. Then you can walk in the basin over the hot stone and look down the pipe at the fiercely boiling water rising gradually to its old level.

Before every discharge of the waters there are premonitory rumblings. Following the rumblings there is a tremor of the earth. Then a column, or rather a sheaf of columns, of boiling water rises, stream after stream, 60 feet, 80 feet, then 100 feet, sinking and rising again, ascending each time higher than the last, till the maximum is attained. For only a few seconds does the climax hold; then down the streams fall, exhausted and spent, not to rise again for 40, 50, or 60 hours. The whole spectacle lasts less than ten minutes. The Great Geyser in the

days of its pristine glory used to rise 300 or 400 feet every six hours.

Near by, about a hundred paces distant, is a curious geyser, called the "Strokr," or "Churn." You can rouse this spring to activity at any time. When quiescent, it is boiling merrily ten feet down from the surface of its basin. Its throat is narrow, tapering from eight feet at the top to a mere ten inches in diameter. This vent can be easily closed, if a few shovelfuls of sod are tossed into the basin. If choked in this way, the "Strokr" hisses and splutters, grumbles and gasps, and then belches forth boiling water and steam and the intruding sods, till the narrow pipe is quite clear of obstructions. The Strokr's eruptions are sometimes nearly as impressive as those of the Great Geyser, rising 40 or 50 feet into the air. When quite worn out, it sinks to its bottomless pit, sobbing and sighing, till one is sorry for having taken this *rise* out of it, to use a witticism of the great Lord Dufferin.

THE PILGRIMAGE CITY

THAT long narrow strip of country which borders on the Red Sea, from the gulf overlooked by Mount Sinai in the north to a region far below Jidda, including 750 miles of coast-line, is known by the name of Hejaz, or Hedjaz. That name has been prominently before the world since 1916, when the country threw off the yoke of Turkey and became an independent kingdom, with El Hussain ibn Ali, the Grand Shereef of Mecca, as king. The new kingdom was recognized by Great Britain in 1917 and the Arabs of Hejaz rendered valuable aid to the Allies during the Great War, especially in seizing and holding the Hejaz Railway, which runs from Damascus to Medina.

King Hussain was, until late in 1924, a very great man in Arabia and in the Moslem world. Claiming to be able to prove his direct descent from Fatima, the daughter of Mahomet, he was long the leading figure in the annual sacred pilgrimage at Mecca. Indeed, until his exile he claimed the right to be regarded as the Chief Caliph of Islam. Until the time of his expulsion by Ibn Saud, ruler of the Wahabis, he was very popular in Mecca and throughout the whole of Hejaz.

It is the country of Hejaz and the marvels of Mecca that will engage our main attention, rather than the rulers of the country and the civil strife of recent years; but let us first glance for a moment at the remarkable career of Hussain's great ancestor, who made this region of the world a centre of interest for all time.

Mahomet, or commonly Mohammed, was, as you know, the founder of that religious system which is called in Europe Mohammedanism, but called by himself Islam. He was born in Mecca about 570 A.D. He was nearly forty when he claimed to have had visions which impelled him to go forward on his spiritual mission to restore the religion of Abraham. The great mosque at Mecca, which existed even in Mahomet's day, was believed by him to have been founded by Abraham and Ishmael. As Mahomet's new mission made a bold demand on the prevailing beliefs of his fellow citizens, his cult was carried on secretly for several years. His sect grew and ultimately made public proclamation of its sweeping purposes. Much hostility soon began to show itself in Mecca against this new religion which made such startling claims. Eventually a dangerous plot was formed to rid the city of the prophet whose mission was proving so disturbing. Mahomet and his followers thought it expedient to flee for their lives. This Flight is known as The Hejira. The fugitives took refuge in Medina, a city situated about two hundred and forty miles north of Mecca.

In Medina the new religion flourished exceedingly. Mahomet, however, still regarded Mecca as the seat of his sect. In all their prayers to Allah the devout worshippers turned their faces southward towards the great mosque of Mecca.

Mahomet now began to claim descent from Abraham through Ishmael. He even admitted that Israel was God's chosen people. Finally, grown proud and confident with his success, he dared to declare that Islam cancelled all former religions, and that he, Mahomet, was henceforth to be regarded as God's vicegerent upon earth.

A few years before his death, when his followers in Mecca had become very numerous, and the violence of his enemies had faded, he arranged for an annual pilgrimage to Mecca. In the last year of his strange career he conducted the pilgrimage himself and laid the foundations for those annual gatherings in Mecca now to be described. Mahomet died on June 7th, 633 A.D., exactly sixty-three years old. That date appears in the annals of Islam as A.H. 11. That is, in the eleventh year of the Hejira.

The kingdom of Hejaz is, for the religion of Islam, the centre of the world. Indeed, the word Mecca has come to mean, in general, a place towards which one's hopes are directed, or a place which is visited by travellers in great numbers. Every pious Moslem is expected to visit Mecca at least once in his lifetime and to take part in the famous Hadj, or Pilgrimage. If one cannot go in person, a representative may be sent, but such a deputy cannot be honored with the title of Hajji given to every pilgrim who has performed all the appointed rites.

Since the days of Mahomet no one has been allowed to visit Mecca unless he has been a Moslem. Several foreigners have turned Mohammedan and have thus been able to see the ceremonies. In 1923 Lord Hedley, President of the British Moslem Society, took part in the annual pilgrimage and was able to secure some remarkable photographs of the sacred scenes. He is the first Englishman who has openly joined in the pilgrimage.

You can approach Mecca by one of two main routes,—either by way of Jidda, the sea-port of Mecca on the Red Sea, two camel marches (forty-five miles) west of Mecca, or by way of the Hejaz Railway from Damascus to Me-

dina and thence by camel route 240 miles south. If the latter road is chosen, the traveller will have an opportunity of seeing in Medina many interesting places connected with Mahomet's later life, including the mosque of the Prophet and the place of his burial.

The pilgrim to Mecca must travel from Jidda or from Medina on the back of an Arab horse, or of a donkey, or of a camel. Probably he will prefer the last. There are no railways in this sacred tract, for to lay down steel and to run a puffing engine within a hundred miles of Mecca would be a profanation too horrible for Islam to contemplate.

The pilgrim must dress properly in Arabia. The Arab dress for all Hejaz includes wide cotton trousers, a long shirt reaching to the ankles, a colored gown, and a sash. Over these is worn a "jubba," with wide sleeves, made of any material and of any color. The head covering is a straw cap worked with colored silk, and wound with a white band, or a cotton cap under a cloth fashioned into a turban. The "Ihram," or white robe, is kept specially for the Pilgrimage.

As you draw near to Mecca at the time of the Pilgrimage, you will find yourself in a throng gathered from all Asia and, indeed, from all the ends of the earth. Here are people from Java, from China, from India, and from every other eastern land and race. Every variety of costume greets the eye. The Turks from Asia Minor wear enormous trousers; the Arabs are dressed in gloomy garb; the Bedouins carry spears, although they come on a peaceful mission. Malay, and Persia, and Egypt, and Afghanistan, are all represented here. Quite half the nations of the earth have sent pilgrims to the holy place. The

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babel of tongues, when all the strangers have arrived, must rival the earlier Babel of Holy Writ.

The general appearance of Mecca is picturesque. The streets are spacious. The houses are of stone, many of them four or five stories high, with terraced roofs and large projecting windows.

The population of the city is normally about 70,000. During the period of the Hadj it often mounts to 500,000. The city is under the rule of a "Shereef" selected from certain old families descended from Fatima, Mahomet's daughter.

The climate of the region where Mecca lies is not altogether pleasant, though not particularly unhealthy. It is hot all the year and very dry. Indeed, it rains only once or twice a year, and then it pours in a perfect cloudburst. Nothing grows in the barren soil about Mecca. All the fruit and grain for the city have to be brought in from long distances, much of it from the fertile district about Taif, to the east.

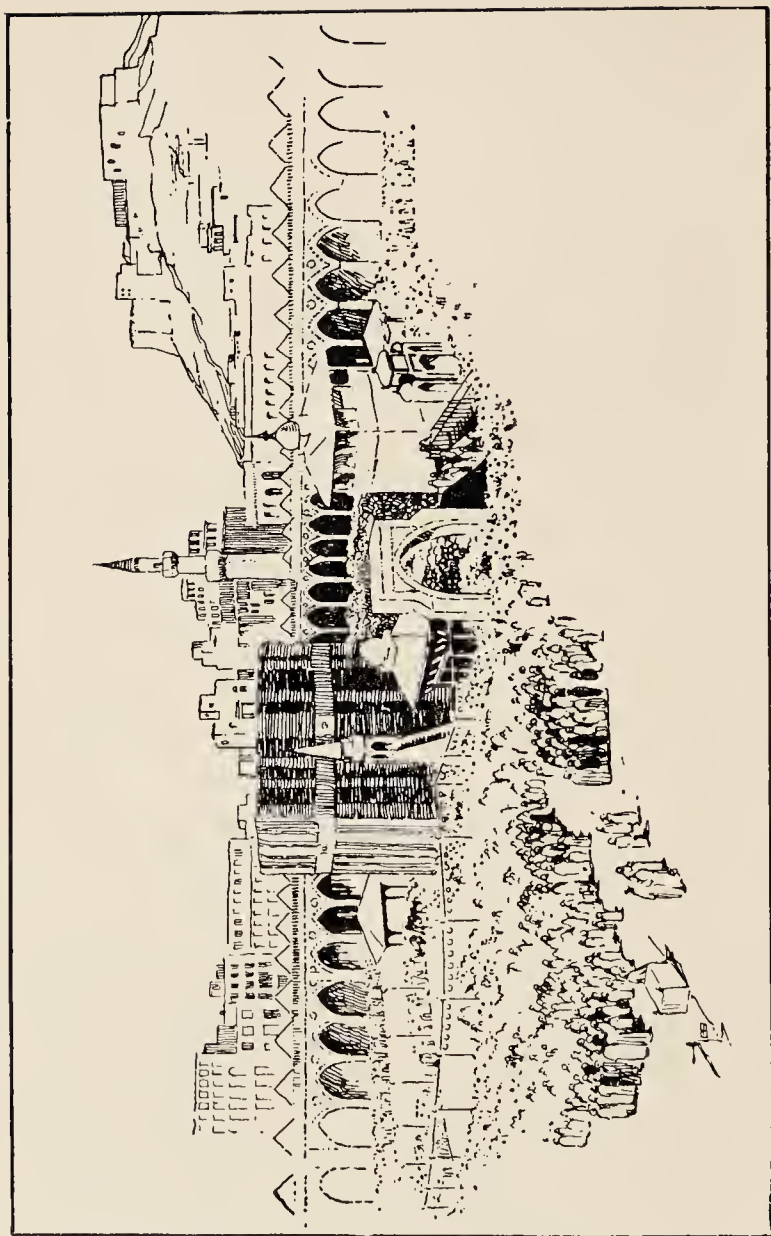
As soon as the pilgrim reaches Mecca, he goes at once to the Great Mosque of the Haram, the roofless structure which holds the Kaaba, the most sacred shrine of the Moslems. The "Ancient House," as the Kaaba is called, is a rude stone building without windows. In Mahomet's time it was a heathen temple, but he destroyed the numerous idols and dedicated the place to the new worship. In the south-east corner of the Kaaba there is embedded in the wall a black stone, a span only in length, which is venerated by Islam as having been given to Abraham by Gabriel. This stone is placed about five feet from the ground, at a height to be conveniently kissed. During the whole period of the Pilgrimage the Kaaba is draped in

black carpet. On the evening after his arrival the pilgrim performs "The towaf," which involves walking seven times round the Kaaba, and saying prayers as he walks. For seven days this is continued before the regular pilgrimage begins. During these seven days the pilgrim has opportunities for exploring the city. He will, therefore, go to see the birth-place of Mahomet, and, if he desires, he may even kiss the sacred slab which is said to mark the exact spot where the Prophet was born. During this week of waiting the sacred book of Islam, the Koran, is much studied by the devotee. Some of the pilgrims, however, can recite the whole book without making a mistake in a single syllable. As the Koran is a large book, and as the style is confused and the contents are chaotic, one is amazed at this feat of memory.

The pilgrim must learn before he sets out for Mecca that there are no banks in the holy city of Islam, nor indeed in the whole of Hejaz. The Prophet is thought to have forbidden banks in the sacred code of the Koran, for usury is specially banned in that volume.

During the holy month there is a daily newspaper published in Mecca. It is called "Quibla." There is also a weekly paper called "The Hejaz." Portions of both papers are printed in Arabic, and smaller sections in the Turkish language.

The Great Pilgrimage is made at a certain time in the Moslem year, from the 7th to the 10th of the last month. As the Moslem year has only 355 days (established thus by Mahomet) the date of the Hadj varies by about ten days from year to year. In 1924 the Pilgrimage took place in July. In 1927 and 1928 it will come in June. In 1942 it will be celebrated at the beginning of our



PILGRIMS AT THE KAABA, MECCA.

New Year. As the climate of Mecca is much the same all the year round, the weather during the Pilgrimage is much the same every year.

When the seventh day of the holy month has arrived, all pilgrims must be prepared to go out from the city on donkeys or on camels, taking their tents with them to protect them from the heat of mid-day and to shelter them while they rest at night. All grown persons in a fit state of health must leave Mecca before dark, and proceed to the village of Mina, five miles north. They all pass the night in Mina. On the next day they set out early for Mount Arafat, nine miles east, in the direction of Taif. The usual experience during this nine mile journey on the second day of the Hadj is thus vividly described by an eye-witness:

“At least half a million people are travelling these nine miles of road between sunrise and ten o’clock this day. About half of them are mounted and many of them possess baggage-animals as well. The roar of this great column is like a breaking sea, and the dust spreads for miles over the surrounding country. In sight of Arafat the spectacle becomes stranger still. The hill (which is a mere boss of granite) is literally black with people and hundreds of tents are springing up every minute in an ever-widening circle. The dull murmur caused by thousands of people shouting the formula, *Lebéka lebéka*, *Allohooma lebéka*, becomes so loud that it dominates every other sound. It seems like the rumble of an earthquake.”

At Arafat the pilgrims stay till sunset, then return and sleep at Nimrah, half way between Arafat and Mina. The third day they go back to Mina in the morning,

throw stones at the three pillars, or devils, and then go on to Mecca. The stoning ceremony takes more than an hour. The first two devils, or stone pillars, are in the main street of Mina, the third on the road to Mecca. Seven stones must be thrown by each pilgrim at each cairn; so that millions of stones are flung at those devils during every annual festival. On the day of the stoning every pilgrim must sacrifice an animal of some sort, a sheep or a goat is usually chosen. The meat that is not eaten is distributed among the poor.

On their return to Mecca the pilgrims perform the "towaf" again, and then once more return to Mina for the night. The fourth day, which is the 10th of the month, is the day of the "festival" and is spent at Mina. At noon on the fifth day all return to Mecca, not forgetting on their way out to throw the seven stones once more at each of the three battered cairns. From the time of leaving Mecca till the first return there the "Ihram" must be worn, but after leaving the Haram for the festival in Mina it is dropped, and the finest raiment one can afford is worn, if possible, brand new garments of the Hejaz type.

Among the pilgrims will be seen each year the Shereef of Mecca, riding on a white pure-bred stallion, and followed by his family and other prominent people, also on horseback. Behind them ride a crowd of spearmen on racing camels. In Lord Hedley's famous picture of the solemn procession is seen Hussain, once the King of the Hejaz, who was, as has been said, for many years the Shereef of Mecca.

Those who complete all these ceremonies are believed by Islam to be free from sin and are entitled to attach

to their names for life the honoured title of *Hajji*, wearing special head-gear to indicate the distinction. You may wonder what regulations prevail in the case of the regular citizens of Mecca. They are expected to make the annual pilgrimage to Arafat along with all the strangers from abroad. The city must, as far as possible, be left absolutely empty during the sacred days.

The origin of the Great Pilgrimage has been already referred to. It is, in fact, a perpetuation and celebration of the movements of Mahomet during his "farewell pilgrimage" in the year Ten of the Hejira (632 A.D.). Little did that false prophet dream that ages after his death millions of his followers would be treading reverently in his very footsteps on this old road from Mecca to the granite hill of Arafat.

IN SALAH

IN THE north of Africa there is an arid region as big as the whole of Europe, or the whole of the United States. For ages it has been described by travellers as "An Ocean of Sand." That designation, however, is based on a gross misconception, for these three million square miles of desolation have a most varied surface and a relief of many aspects. The elevations range from a hundred feet below to eight thousand feet above sea level; and besides the sand-dunes and the 80,000 square miles of oases, the region contains rocky plateaus, great tracts of stones and pebbles, ranges of hills of many types, and dry valleys and dead lagoons where vegetation must once have been luxuriant. The courses of the ancient rivers can often be traced, spreading out like giant skeletons, and even yet in favored spots fresh brooks, after showers, purl in sweet tones along their shingly beds.

This vast wilderness has, since the earliest years of recorded history, had numerous inhabitants. Every habitable island in the great "ocean of sand" has been occupied for ages. Across the Sahara, in every century, have roamed countless caravans, east, west, north, and south, trading, plundering, fighting. Arabs, Berbers, and negroes, make up the mixed population of the great desert.

For eighty years the control of the Sahara has been largely in the hands of the French. By force of arms and by clever administration they have tamed the savage tribes to perfect submission and have drawn them into a



AN OASIS.

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willing service. The latest instance of French enterprise and adventure is the crossing from Algiers to Timbuctoo of a large party of well-equipped travellers in motor cars specially constructed for desert travel.

Not by motor car are we now to cross the desert, for we shall adopt a better mode of transportation, rapid and safe and rich with panorama, a voyage through the air,—and an imaginary journey at that! We know well what places we wish to visit, what route we wish to take, what perils we must avoid, what vistas of desolation and of beauty we are sure to survey.

Our objective is to be the very centre of the Sahara—the great oasis of In Salah. We select that centre because it has been for centuries a stopping-place of the devotees of Mohammed on their pilgrimages from Morocco to Cairo as they annually move towards Mecca. It is also a stopping-place for traders who take the long journey from Timbuctoo through the oasis of Ghadames to Tripoli. In Salah is also the largest and most famous of the great group of oases in the Touat district and at the very south end of the striking plateau of Tademait.

The time of the year we select for our flight is January, since we wish to avoid the obvious discomforts we should have to face at any other season. We shall start from Algiers in our comfortable aeroplane, and it will be well to start in the afternoon in order to reach the oasis of Tougourt, 250 miles south, before dusk. If we have good luck we should reach our first resting-place for the night in less than three hours.

At 3 P.M. we rise into the air 3,000 feet under the skilful direction of our imaginary Flight-Lieutenant, who, of course, never has a mishap. Having reached the de-

sired altitude, we sail directly south, and soon leave behind the friendly waters of the blue Mediterranean. In thirty minutes we are speeding over the high Algerian plateau. The Tell we see first,—a region of cultivated land, with fruitful valleys; then the region of the Steppes, dotted with lakes and marshes; then the borders of the Algerian Sahara, a rocky tableland with a few cultivated areas. Our air-ship descends a mile in fifteen minutes as we come down from the mountains, 6,000 feet high, to the expanse of sandy dunes, only 600 feet above sea-level.

The next hour is without event, as we fly over the monotonous spaces. The air is calm and cool, and our machine flies with precision and speed. Soon we discern the towers of Touggourt; then the tall date-palms that lend beauty to the town; then the low houses of sun-baked bricks. The people of the town are not expecting us, but they have a reputation for hospitality. We alight at 6.30 P.M. in the outskirts of this desert hamlet. It feels warm on the earth after our long swift tour through the upper air.

The inhabitants of Touggourt are interesting, but we cannot now stop to become acquainted with them. Under a neighboring shelter we seek rest, while the curious dark folk are examining our machine. Soon the temperature drops nearly to the freezing point, as we, at nine o'clock, turn in and invite sleep.

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At dawn we are all astir. The cold is intense for a place in the "burning desert," having the same latitude as South Carolina. Our pilot is waiting for us, and we

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are soon on the wing. This is to be *the* day of our adventure.

The hedges of scattered palms which surround this oasis appear grey as we ascend. Soon the sun rises and the dunes below take on a quick succession of many hues, sometimes blonde aspects, sometimes the pink variations of mother-of-pearl, sometimes a brighter red. Next we see a series of low-lying hills mottled with divers colors.

In a half-hour we are steering between the two oases of Wargla, on the east, and El Golea, on the distant west. Already, although we are 3,000 feet from the earth, we feel the warmth of a breeze from the far away sands of the hot Libyan desert to the east. We are glad to see before us on the left the minarets of Wargla, once called the "golden key of the desert." All caravans flow through Wargla, for it is a sacred town, with an ancient mosque. A million date-palms are here nourished by artesian wells.

But look! Two thousand feet below us a caravan from the south greets us! The Berbers on their camel mounts look up at us, and we care not whether they are friendly or hostile. In what a beautiful rhythm do the stately dromedaries move, as snake-like the procession winds its way through a great gorge among the low rocks.

We are soon past the caravan and the obstructing rocks, and lo! what a wonderful view! Right below us miles and miles of pebbles glitter in the light of the glowing sun. They assume a thousand colors, and our swift flight lends the whole stretch of the desert waste a bewildering, almost a blinding effect.

Beyond the miles and miles of pebbles we come down closer to the earth, to within a thousand feet. What, we wonder, are those white objects scattered over the plain

along that old caravan route? They are the bones, we learn, of departed camels, hundreds of skeletons, queer white carcasses with huge skulls. They suggest tales of a century of mystery in this torrid wilderness.

But the wind increases, and we must sail higher. Look at that crescent of sand, immense, perhaps, but appearing like a mole-hill so far below. The east wind is beating against it on the convex side and sending millions of granules of sand careering over the top of the curving dune, to take refuge inside the crescent. The horns of the dune are turned away from the wind as if fleeing from its wrath. These crescents dot this sandy plain everywhere, and the violence of the winds hardens the bastions of sand at the middle of the curve till they are solid as the sandstone rock from which they originally sprang. The older the crescent, the larger, of course, are its horns. Some of these crescent dunes reach a height of 600 feet with an arc measuring several thousand feet from tip to tip.

If we were down on the plain yonder, we should hear a strange weird music, as the wind sweeps the sand along over the summit of the dunes. As the wind increases in fury, the music of the sand waxes louder and louder, till the orchestra of the desert becomes absolutely terrifying. But we must go much higher or this Libyan tempest will destroy us. We look down again and see the whole desert smoking with clouds of scurrying sand. We are lucky not to be down there! Now we can understand why the Tuaregs (Berbers) wear veils night and day—white, black, or blue veils,—showing only their eyes. That tartan-like veil tells the story of a thousand years of sand-storms.

Now as we approach the long plateau of Tademait, we pass over miles of bare rock as smooth as a floor; then miles of boulders; then miles of pebbles, red, brown, and black; then more dunes of sand and rock. Here we see dead rivers and dried-up lagoons in abundance.

We have passed the storm zone, and now sail calmly south, with sombre Tademait to the right. Straight before us we see—wonderful to tell—hurrying north along the old desert road, three motor cars, fashioned more like tanks than cars, belonging doubtless to the French Government. As they pass under us we exult for two reasons,—we are free from the many discomforts of the fickle terrain along which they are crawling, and, better still, our rate of progression is just five times as fast as their best rate over those rough treacherous roads.

The plateau of Tademait has an architecture of its own. As we look down upon it, we see what looks like immense fortified castles. The sun at noon makes them sparkle like conglomerates of jasper. Along the base of this plateau are clustered many houses made of sun-dried tiles. These huts increase in number as we draw down nearer to In Salah. This is the region of the mirages of the desert, but from our altitude we shall not be able to view them. Frequently the people in this interesting tract see lakes suddenly arise before their astonished gaze, and then perhaps pink towns with gay cupolas and glittering turrets.

The oases of Touat now group themselves beneath us and stretch farther to the west than our ken. From our high point of view they look green and cool, but we know from the brightness of the sunlight that 2,000 feet below

us the temperature is over 100° in the open, and on the sands is a burning furnace.

By two o'clock we draw near to the Great Oasis of In Salah, and we yearn for cessation from the rapid movement. Yonder it lies ahead of us on the old Sahara highway. The palm groves stand out clear against a background of yellow and brownish sand.

We have not, on our journey, seen such green vistas as now appear. Nourished with underground streams, In Salah is a paradise. No wonder many thousands of Arabs, Berbers, and blacks, love this refreshing retreat from the heat and the furies of the desert.

Quickly we descend and cordially are we welcomed. Since Col. Hayward visited In Salah in 1910,—the first Englishman ever seen there—the people of this central oasis have had a high regard for travellers of British blood. Some of the dusky women of the town had seen us coming and were now ready to receive us. Their nimble feet whirled in a crazy dance and their tom-toms, not entirely unmusical, signalled to all and sundry that strangers had arrived. A great crowd soon gathered, for no work is done in the hot afternoon in any Sahara town. It was almost beyond belief that these dark folk who greeted us so effusively were the sons and daughters of barbarous parents, who, thirty years ago, "robbers of the Sahara," would have cut the stranger down without a qualm of pity.

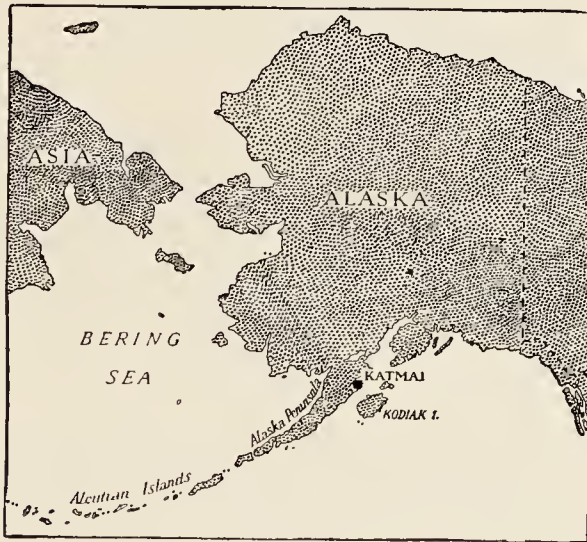
We notice many thirsty natives in every street drinking from their rude cups great draughts of cool water just drawn from their precious artesian wells. Even in the smothering heat the men of In Salah are veiled, for the necessity of the desert has now become the fashion of the

town. The women, strange to say, go about unveiled, and they relish their freedom, for many of them are beautiful and are not disinclined to see admiring eyes. It should be noted here that these Berbers are not blacks, but a white race of the Atlas mountains. A few stragglers of the Tibbus, a nomad negro race, may, it is true, be found engaged in the lowlier occupations of In Salah. The men of the Berbers, as well as the women, are good-looking, if not handsome. They are tall, slender, and wiry, and one imagines they would excel in physical encounters. The original white of their Mt. Atlas progenitors has become quite swarthy in the rough buffetings of the elements during centuries of hardship.

We make a circuit of the palm groves in the company of a few French officials. We see the sun go down in the west over the desert of Igidi. We see a thousand brilliant colors bathe the rocks and the dunes in the region of Touat. Then with what exquisite weariness do we lie down and drink in the cool night air. To-morrow we northward fly.

THE VALLEY OF TEN THOUSAND SMOKES

ONE of the most extraordinary land conformations in the world may be seen in the extreme north-western region of the continent of North America. The picture of the long, narrow Alaska Peninsula, and its odd pendent of a hundred and fifty islands running out into the Bering



ALASKA.

Sea for a thousand miles, astonishes the student as he scans the map of Alaska and the Catherine Archipelago (the Aleutian Islands). The rocky mainland points its mighty finger with unerring exactness in the direction which the chain of islands pursues, and indicates almost conclusively that the islands were once a part of the elon-

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gated mainland and were long ages ago torn from the parent stem by some gigantic convulsion of the earth.

Many of the rugged peaks of these islands are still volcanic and moderately active. New islets are frequently thrown up or old islets submerged, and the features of the land and sea are constantly changing. Our attention in this brief chapter will be directed, not to the restless islands, but rather to recent happenings on the peninsula itself.

On June 6th, 1912, a geologic sensation stirred the pulses and thrilled the imagination of America and Europe. On that day the terrific eruption of Mount Katmai set a new record in the world for volcanic disturbance. The amount of ash and pumice hurled into the air was equal to a cube of five miles in all three dimensions. The solid material which fell buried an area of 5,000 square miles to the depth of between ten inches and ten feet, and ashes fell in perceptible quantities nine hundred miles away. The district of Kodiak, situated about a hundred miles from the volcano, was buried nearly a foot deep with the flying ash. The Yukon valley, six hundred miles away, was covered with a thin blanket of dust. By the tremendous explosion great quantities of fine dust were launched into the higher atmosphere and carried around the world, changing the character of the weather during the early part of that cool, wet summer.

So remote from all human contact was Mount Katmai that there were no witnesses of the eruption, and it was several years before travellers to that secluded region determined the exact site of the particular volcano which had produced so wide-spread an effect. The village of Katmai, twenty-five miles from the crater, inhabited by



IN THE VALLEY OF TEN THOUSAND SMOKES.

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simple Russian fishermen, was overwhelmed, though, by a miracle of Providence, every soul of that little community was saved. On that day of doom they were all, without exception, away in their boats. Their houses were filled solidly full of pumice, although it would appear that the village was not in the main track of destruction. So utterly was the hamlet obliterated, so completely was all vegetation destroyed, so desolate beyond all possibility of recovery was the whole dismal region, that the fishermen chose a new home many miles away.

It was found in 1916 by the third Katmai Expedition (there were four in all) that the crater of the volcano is quite the largest in the world, gigantic in size and unfathomable in depth. Far down has been descried by intrepid explorers a boiling lake, sending up at intervals columns of steam 3,000 feet high.

But it is not so much with the steam from the volcano that we are concerned. Let us view the "Valley of Ten Thousand Smokes" which serves as a sort of safety-valve for this whole volcanic tract. Were it not for these innumerable vents, covering many miles of the fissured region adjacent to Mount Katmai, volcanic eruptions would be frequent and stupendous.

"Ten Thousand Smokes" was a name which rushed to the lips of the first man who saw the wonderful panorama, for the jets of gas and steam, arising as far as eyes could survey, appeared like countless columns of smoke. "Ten thousand" to that bold traveller seemed an adequate term for describing what he first saw from his hill of prospect, but later investigation showed that the Greek word "myriad" (ten thousand) came far short of a suitable

designation for the millions of spouting or hissing pillars of gas and steam emitted from the subterranean depths.

A general view of the great valley shows a wonderful color scheme. The ground has been burned a bright red by the heat. In spots the red shades off into orange or purple. Contrasting streaks of blue produce here and there brilliant rainbow effects. The most striking variety in colors occurs where, over a small area, the fumaroles have exhausted themselves and are quiescent. In such tracts have been found bushels of the most perfect crystals of sulphur.

These Alaskan fumaroles have added another to the "wonders of the world," and so recent is the discovery that the geographies and the encyclopaedias say very little about the great volcano, and the indescribable scene that stretches for illimitable acres away from the bases of the mountain.

The hissing steam ascends from several of the larger fissures and craters to a height of nearly a mile, and, if the wind is strong, the steam-cloud travels along the valley for two or three miles.

The "Valley of Ten Thousand Smokes" is uncomfortably warm for the traveller. If a thermometer is thrust but six inches into the ground the temperature rises at once to the boiling point. Indeed, almost any of these steam columns will cook a dinner admirably.

The "Valley" is a prolongation of many valleys amid the numerous elevations of the tract. They twist and curl and multiply over a length of thirty miles. As the average width of each depression among the hills is about two miles, it can easily be estimated that the total area of

the Katmai valleys is between sixty and seventy square miles.

If you should become uncomfortably hot in this region of heat and steam, you may experience an opposite sensation in a few minutes by backing up towards higher ground. Ash-covered snow-drifts abound as sentinels over the valleys, and yonder, only four miles away, slides down from the snow-fields above to lower levels an immense glacier, which some day, without warning, will hasten its pace and rush over the steaming vales, to produce a new cataclysm of unimaginable proportions.

THE GLORY OF AGRA

AT THE very time when, in England, an imperious queen, Henrietta Maria, was urging her husband "to be a King" and to resist the factious insolence of men like Sir John Eliot, another queen, on the far off banks of the sacred Jumna, was also entreating her husband, but in a very different fashion. The English queen with her French pride desired to retain her full queenly rank, not shorn of any of its traditional splendor. The Indian queen, in the hour of her death, was imploring her most affectionate lord to remember her forever. Henrietta Maria's advice led to the Great Civil War and to the death of her loving consort. Mumtaz Mahal's prayers led to the erection of the most beautiful mausoleum of all times and of all lands.

Three hundred years ago so little did one part of the world know what was happening in another that Cromwell's little army marched to and fro in Britain without any knowledge of his movements reaching the distant Mogul city of Agra; nor was England all this time aware of the strenuous activity of the 20,000 workers who from 1632 A.D. till 1653 A.D. toiled incessantly under urgent overseers in order that Shah-Jahan might as soon as possible complete that "glory of Agra" which would stand for countless generations as the memorial of a grand passion and the fulfilment of a solemn vow.

The city of Agra is about 140 miles south-east of Delhi. It contains several magnificent structures, built by the great moguls of the 16th and 17th centuries,—not only

the Great Palace of Agra and the beautiful Pearl Mosque, but also, outside the city and about a mile to the east, the famous mausoleum, Taj Mahal.

It was the emperor Akbar, grandson of the great Baber, that built the fort of Agra, whose lofty walls of red sandstone, a mile and a half in circumference, still stand. It was under Shah-Jahan, grandson of Akbar, that the Mogul power reached its greatest prosperity. This was also the golden age of Indian architecture. The Great Palace, on the banks of the Jumna, was probably built in Akbar's time. Its walls of white marble, its pavements, pillars, balustrades, remain almost as if finished yesterday. The Pearl Mosque was the achievement of Shah-Jahan, as was also, of course, the glorious Taj itself.

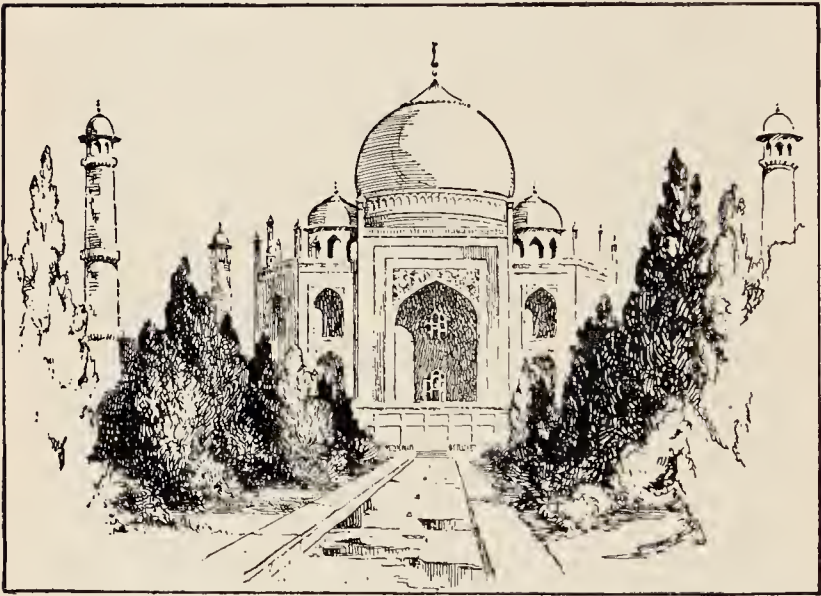
In 1631 died the beautiful queen of Shah-Jahan. That she was peerless in beauty it is not hard to imagine, since many enamels and miniatures of her perfect features still exist. As she neared the end of her earthly life she called the emperor to her bedside and made two dying requests: —(1) that in no circumstances would he ever marry again; (2) that he would build for her a splendid tomb which would perpetuate her memory for all time. "Your will is a binding mandate," he declared, "and I promise that no woman shall take your place beside me." "As for the tomb, it shall be the best, and it shall survive after all the grand palaces of the world are in ruins." During the remaining 25 years of his eventful life the building of the marvellous Taj occupied a large part of his attention. The tomb itself was completed in seven years, but the supplementary buildings took fourteen years longer. The total cost is estimated to have been about \$25,000,000.

The Taj stands on the north side of a large quadrangle,



AKBAR ENTERS HIS CITY IN STATE.
(From an ancient Indian manuscript.)

looking down into the clear blue waters of the Sacred Jumna. The other three sides are enclosed in a high wall of red sandstone with pillars of white marble, supporting cupolas, at each corner. The entrance to the quadrangle is by a magnificent gateway in the south side opposite the mausoleum. On the other two sides are two very beautiful mosques facing toward the tomb. The whole area of



THE TAJ MAHAL.

the quadrangle is laid out in flower beds while cypress trees fringe all the borders. Along the central road, leading from the entrance to the tomb, a double row of fountains has played every evening for nearly 300 years with scarcely an intermission. The gorgeous quadrangle is 964 feet long and 329 feet wide.

The great mausoleum, the minarets which rise from each corner of the terrace, and the perfect terrace itself,

are all of the finest white marble. No such marble can be found in the Agra region. It is believed that all the material for the tomb and its buildings was conveyed to Agra upon wheeled carriages from the Jaipur territories, 200 miles to the south-west.

The mausoleum of the Taj is the architectural wonder of the world. It was designed by that genius, Ustad Isa, a native of Shiraz in Persia. Lord Roberts, in his "Forty-one Years in India," speaks thus of it:

"Neither words nor pencil could give the most imaginative reader the slightest idea of the all-satisfying beauty and purity of this glorious conception. To those who have not already seen it I would say: Go to India; the Taj alone is well worth the journey."

The white marble of the monument is 'diapered' with almost imperceptible lines, or veins, of pearl gray. All over the walls, under the cornices, and twining round the doors and minarets, may be seen, also, delicate inlaid arabesques of thin black marble. The system of inlaying with precious stones,—agates, bloodstones, jaspers, and the like, came to Agra in Akbar's time, and was developed and continued under his ingenious descendants.

The central cupola of the tomb is 75 feet high. Exactly beneath it the great queen sleeps. The cupola is supported by four pillars, and around the pediment supporting these pillars there is a wonderful border of lilies sculptured in bold relief. As we view this splendid tomb, we are continually reminded of the ancient saying: "The Moguls designed like Titans and finished like jewellers."

The most wonderful thing of all in the Taj is perhaps the white grille that stands in the centre of the hall above the tomb of the princess. It is made of plaques of marble

placed upright. On each marble upright little garlands of tulips, fuchsias, and immortelles, are worked in mosaics of turquoise, topaz, porphyry, or lapis lazuli.

The emperor and the queen lie buried in a vault side by side beneath the main building. To view the vault you descend by a flight of steps. The place of sepulture is beneath two slabs of marble. Upon the floor directly above, in the very middle of the great central room, under the dome, stand two other slabs, or cenotaphs, of the same fine marble, exquisitely ornamented with mosaics. Upon that of the queen, amid wreaths of eternal flowers, are worked in black letters texts from the Koran.

One wonders to see "this dream in marble" so immaculate and inviolate after three hundred years of restlessness in India. Once, indeed, these precious structures excited the cupidity of a marauder and narrowly escaped devastation. The great doors of solid silver at the entrance to the tomb were carried away by Suraj Mall, the chief of that band of robbers who established themselves at Bharatpur, 35 miles west of Agra, in the middle of the 18th century, and whose power was not broken till their stronghold was captured by the British in 1826.

The ancient monuments and memorials at Agra are now well cared for. Large sums are spent yearly by the Indian government on conservation and reparation. Reverence for these famous buildings has taken the place of the vandalism which more than once seriously threatened them.

THE GIANT'S BRIDGE

IN 1843 a young Englishman of thirty years visited Ireland and then wrote a book giving a vivid picture of life in the Emerald Isle. During his tour he was attracted to Antrim, in the extreme north-east, to see what was then and what will always be one of the natural wonders of the world. This young traveller, William Makepeace Thackeray, in his "Irish Sketch Book," tells us how deeply he was impressed by the peculiar beauty of "The Giant's Causeway." He describes the region as "a wild, sad, lonely place." "It looks," says he, "like the beginning of the world somehow. The sea looks older than in any other places, the hills and rocks strange and formed differently from other hills and rocks. The hill-tops are shattered into a thousand cragged fantastical shapes. The savage rock-sides are painted a hundred colors. When the world was moulded and fashioned out of formless chaos, this must have been the *bit over*,—a remnant of chaos. If Mr. Tennyson were to come hither for a month and brood over the place, he might, in some of those lofty heroic lines which the author of 'Morte d'Arthur' knows how to pile up, convey to the reader a sense of this gigantic desolate scene."

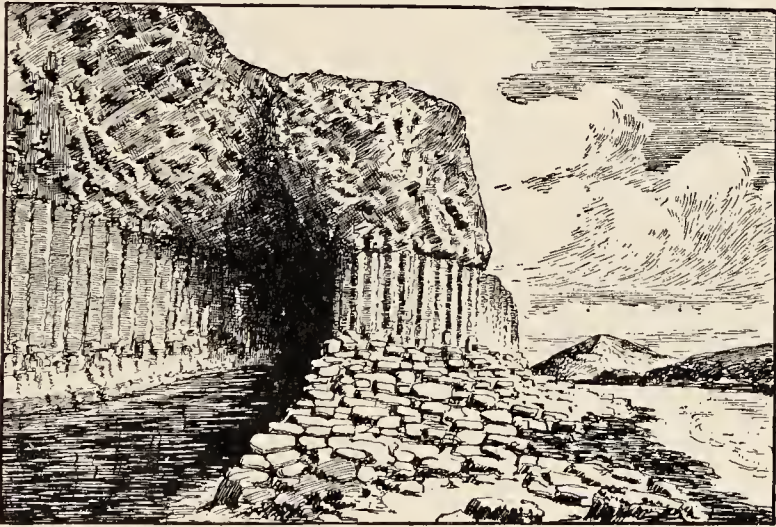
As Thackeray in rapt amazement moved over the high rough floor of these upstanding pillars of basalt and looked through the mist towards the hills of distant Scotland, he doubtless recalled the wild tradition which gave the "Giant's Causeway" its name. . . . A certain Finn,

MacCool (or M'Coul), irritated by the constant boasting of a Caledonian rival across the channel, Benandonner of Staffa, invited him to step over and try which was the better man. The Scottish giant replied that he would gladly come at once if it were not for the danger of wetting his feet and catching his death thereby. Thereupon Finn with all speed, employing every Irishman in the district, constructed a bridge, or causeway, right over to Scotland. The Staffa giant then strode over the ninety miles and with blustering gestures faced his Hibernian rival. In the famous fight which followed Finn was, of course, victorious. Benandonner was so enamored with the beauty of the country and of the maidens of the country that he married and settled down in Antrim. As the Causeway was not needed any more and as it impeded navigation in those parts, Finn MacCool gave it a mighty kick with his immense foot and sunk it in the sea. Only a little end of the bridge remains to this day to prove the truth of the story. Fingal's Cave, in Staffa, still preserves the name of Finn MacCool. Its columnar structure is similar to that of the Giant's Causeway.

Long after the era of the legendary MacCool, indeed, it was in the "spacious days of great Elizabeth," there came fleeing through the stretch of sea off Antrim the panic-stricken and battered fleet of Spain. The captain of one of these ships, the *Gerona*, descrying three of the basaltic pillars in this region, mistook them for the towers of Dunluce Castle. He fired his rusty cannon at the tallest of these pillars, 45 feet high, and then hurried on to be totally wrecked on the trap-rocks beneath the cliff. To this day the inlet is called *Port-na-Spainia*.

Geologists tell us that "The Giant's Causeway" is a

fragment of a vast mass of basalt, from 300 to 500 feet deep, which covers the whole county of Antrim and the eastern portion of Londonderry. As this basalt is interstratified with layers of ash, we must conclude that the region is of volcanic origin, probably an extension of the far off Icelandic system. A battle royal has raged for nearly a century over the true origin of these columns. At



FINGAL'S CAVE.

first the general opinion was that the columns had been formed in the bowels of the earth or in the depths of the sea and had been later uplifted to their present position. Whether the rocks are volcanic or plutonic, we must leave the specialists to determine. We can, at least, examine the marvellous pillars as they now stand and wonder at nature's handiwork.

There are three causeways in the group,—the Little Causeway, the Middle Causeway, and the Grand Cause-

way. The last, which is formed by the lowest of the three columnar beds, is from thirty to forty feet wide and about 600 feet from its exposure on the cliff down to the place where the sea covers it. The Causeway at a point about a hundred and fifty feet from the sea turns eastward and points toward Scotland. At the extreme end, when the tide is out, the promontory looks like a man-made pier or mole, and the architecture of the structure appears so regular that we cannot be surprised that such a legend as that about the giants sprang up and flourished.

In all there are about 40,000 pillars of basalt, crowded, yes, packed together. If one walks about on the uneven surface above, he will see that the columns are so close to one another and are so dove-tailed into one another that the blade of a knife can scarcely be inserted between them. The pressure was so terrific when the pillars were formed from the molten lava a million years ago that the columns took on the forms which allow no interstices between them. They are chiefly hexagonal, though many are of five, seven, eight, or nine sides. Only one pillar of three sides has been found! The diameter of the pillars is from 15 to 20 inches and their height from a few feet to 20 feet. Each pillar is divided by joints of unequal length, from two or three inches to two or three feet, the concave hollow at the end of one exactly fitting the convex projection of another. Strange to say, there is no law to determine whether the upper or the lower end of the joint is to be convex or concave. The contiguous parts of the joints fit each other and that is all. Whichever end of the joint got the start in the race when the cooling off process began, had its way and became convex.

There are many individual formations in the region of the Causeways which have received special designations. "The Giant's Organ," just east of the Grand Causeway, towards Bengore Head, should be mentioned first. It is a colonnade of pillars, laid open, as it were, by a land-slip. Legend declares that Ossian sang his own poetry to this organ, built by his own hands. "A fine sight it must have been," declares one Irish rhapsodist, "to see the giants and their wives and children listening intently to the old poet as he shouted out his beautiful verses to the Organ a hundred feet above him."

On the east side of the Grand Causeway is "The Giant's Gateway," the columns having the character of a series of steps. On the west of the Grand Causeway is "Lord Antrim's Parlor," a space surrounded by columns, where tourists have carved their names since 1717. The Middle Causeway, or "Honey-comb," contains the "Lady's Chair," a group of pillars gathered around a single pillar, depressed and so situated as to form a very comfortable seat. "The Giant's Loom" is a colonnade thirty feet high, one of the columns having thirty-eight points.

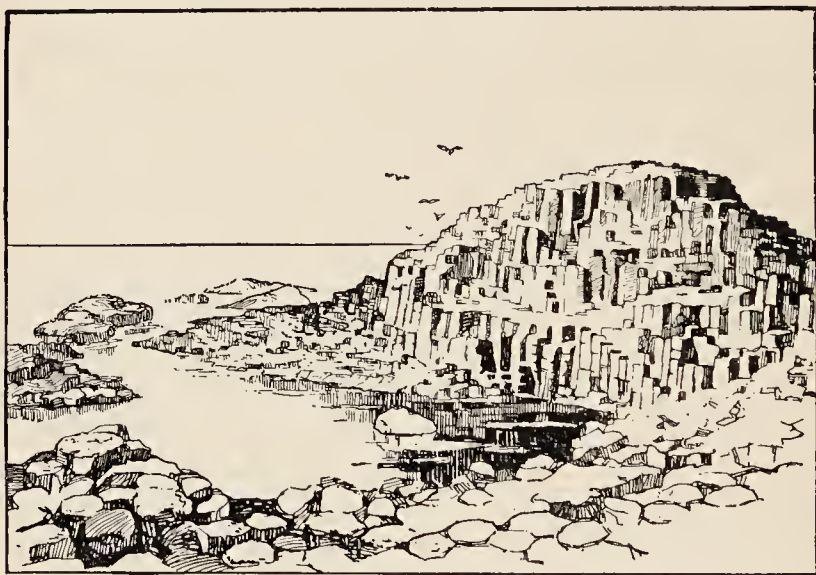
Innumerable other sections of these causeways have received special names, such as, "The Giant's Theatre," "The Giant's Cannon," "The Giant's Ball-Alley," "The Giant's Pulpit," "The Giant's Granny," and, of course, "The Giant's Bagpipes."

The visitor who returns home after viewing the Giant's Causeway will almost certainly be asked two questions regarding these famous basalt columns: (1) Of what color are they? (2) Are they all standing perpendicular?

All the columns which the sea submerges daily are, when exposed, quite black. The coloring is not due to

weathering, but rather to the hue of the sea-weed that swathes them. All the upper portions of the Causeway are grey, from their covering of short close-clinging lichen. No surfaces of the ancient rocks are bare and clean.

The columns are usually spoken of as perpendicular, but a close look will reveal the fact that only the central columns are quite erect. Those on the east and west



THE "HONEYCOMB," GIANT'S CAUSEWAY.

sides of the Causeway lean over slightly towards the middle. It is, indeed, very remarkable that the posture of these 40,000 pillars should remain so nearly uniform after the primitive convulsion which placed them there and after the climatic changes of many long ages.

The traveller cannot leave the region of the Causeways without calling to mind a strange circumstance. The electric railway which carries you from Portrush to the Causeway, about six miles in length, has a unique history.

It was first built in 1883, creating a mild sensation over the United Kingdom. For, as it happened, the first experiment with this newest mode of transportation was tried out not in a populous and central district, but in the remotest and most secluded corner of the Kingdom, for the convenience of travellers who wished to see this fragment of the primeval world.

THE CAVE OF WONDERS

IN THE year 1809 a hunter in Kentucky shot at a bear and wounded it. The distressed animal retreated to a ravine and crawled down into a funnel-shaped hole. The hunter followed the wounded beast till he could pursue no farther on account of the darkness of the subterranean passage. Next day with an oil torch he explored the cavern and marvelled at its extent and remarkable beauty. Soon all the country-side heard of the place; then all the United States; then the whole world.

The Mammoth Cave of Kentucky is one of the grand natural wonders of the world. As early as 1840 it became a scenic resort for curious travellers. To-day you can reach the Cave very easily by railway, and experienced guides will show you all the labyrinths which are open to visitors.

The Great Cave has five distinct tiers or levels. The upper tiers are now almost dry. The lowest level is the one to which visitors are led. There the drip, drip, drip of falling water tells you that the active processes which created the cave are still at work.

The "Chief City" or "Temple" is an oval cavern 541 feet long, 287 feet wide, and 125 feet high. Other interesting caverns are the "Stella" and the "Mammoth," each 250 feet high, "Lucy's Dome," 300 feet high, and "Cleveland Avenue," two miles long. The list of names of special caves might be prolonged almost indefinitely. "Charlotte's Grotto" is a perfect treasure-house of gypsum flow-

ers. The "Maelstrom" gains distinction from its cata-ract. The "Dead Sea," of course, gets its name from its placid waters.

Everywhere in these caverns one sees magnificent architecture in limestone. Thousands of stalactites and stalagmites crowd the passages. As is well known, these are formed by the slow dropping of limestone-charged water, which solidifies a particle at a time as it moves downwards. These icicles of limestone grow slowly through the centuries, extending ever downwards, while the everlasting drip builds up on the floor below a corresponding mound. The two eventually meet, and stalactite and stalagmite form one solid column.

The ceiling of the caverns and many of the walls are beautiful beyond description. Rosettes of gypsum crystals, either complete or in process of formation, hang in millions of clusters, forming gay garlands and festoons. In some places these crystals have become too crowded, and falling on the floor they have be-jewelled the pathway. In one cavern you may see two miles of these rosettes. In the "Star Chamber," when a powerful light is introduced, these crystals glitter in dazzling splendor.

There are many rivers in these subterranean regions. One of them, the "River Styx," has a remarkable bridge of great beauty. The "Echo River," nearly a mile long, is navigable in its main stream and in several of its branches. Large boats, capable of carrying thirty or more passengers, are provided for tourists. If a passenger during the voyage should sing a song, the results are startling. Instead of a regular echo the notes are blended in a complex reverberation, which continues for two or three



DEAD SEA, MAMMOTH CAVE, KENTUCKY.

minutes beyond the singer's last note. If a revolver is fired over "Echo River," the noise produced resembles in intensity the modern bombardment of a city.

Among the features of the Great Cave is "Bridal Altar." There are three pillars of limestone centuries old. They have been designated the bride, the groom, and the pastor. The "Jenny Lind Chair" must also be seen by all visitors. Once the famous singer sat there and warbled a few sweet notes. The "Elephants' Heads," rough and massive, could not have received a more suitable name.

Throughout the dozen miles which visitors may explore may be seen thousands of rats,—all blind. Millions of bats flounder about, and they too are blind. The fish in these dark waters have also lost their sense of sight. So also have all beetles and crickets and spiders whose ancestors chose to adventure hither.

The avenues of the Mammoth Cave have been explored for a total length of 200 miles. Many hundreds of miles, however, have never been visited even by the boldest explorers. There are bottomless pits to be avoided, and it would be folly in the extreme to attempt to explore some of these dark recesses which have never known rain or snow or wind or light, and have never heard the sound of a man's footsteps or the brushing of a bird's wing.

The Mammoth Cave is only one of the dozens of limestone caves in this region. Such caverns on a smaller scale are common in Kentucky and a few of the adjacent states. The mode of the fashioning of the caves is well understood. Rain and melted snow, charged with carbonic acid gas, with the power of dissolving limestone, make their way down into the earth through the joints and bedding planes of the limestone rock. The water

also acquires on its way an erosive or cutting power, which is due to the sand it gathers as it percolates through the belt of sandstone above. The parts of the limestone below which are less resistant are eaten away, thus forming underground caverns and passages. These galleries become dry as the beds of the river systems are lowered. Then galleries lower down receive the erosive waters.

The temperature of the air in the Mammoth Cave is remarkably uniform, ranging from 52° to 56° degrees throughout the year. In summer the relatively cool air flows out, and in winter the colder air is drawn in. The air movement has been called "the breath of the Cave." The air of the Cave is chemically as pure as that of mid-ocean regions, and it is, of course, optically pure and clean, although the blind denizens of these caverns cannot appreciate this.

The Mammoth Cave has a special interest for Americans. In the War of 1812-1814, between Great Britain and the United States, nearly all the nitrate of potash, or saltpeter, used in the making of the American gunpowder, came from the Mammoth Cave of Kentucky. And so it was a mere pinch of potash from Kentucky that ended the life of gallant Brock on Queenston Heights.

A SEA WITHOUT A FISH

"So, staggering along the stony torrent-bed, we rode toward the east till we came out by the salt-laden shores of the Dead Sea and stood looking at the most desolate region in the world."

—Donald Maxwell (1921)

WHENEVER the rocks of the earth's crust are subjected to great strain, fractures take place in them, and the different parts of the rock tend to move past each other along the fracture-planes, seeking to obtain relief from the strain. The most interesting instance in the world of such a dislocation of strata, usually called a "fault," is to be seen in the Holy Land. The valley of the Jordan, and the Dead Sea into which that river flows, are the product of a geological "fault." Indeed, the fissure in the earth extends almost in a straight line from Mount Hermon down to the Red Sea. The greatest slipping of the fractured strata is in the bed of the Dead Sea itself.

The extent of the "fault" is amazing. The limestone rocks on the west of the lake come down to the water's edge, whereas on the east side the corresponding rocks are 3,000, and in some places 4,000, feet above the level of the lake! Therefore we know that the shifting of the strata here produced much more than half a mile of vertical displacement. How many ages ago this geological convulsion occurred, which pushed these limestone rocks up from the bottom of an ocean which covered all Palestine many thousand feet deep, we can only vaguely conjecture. It is important, however, to remember that the

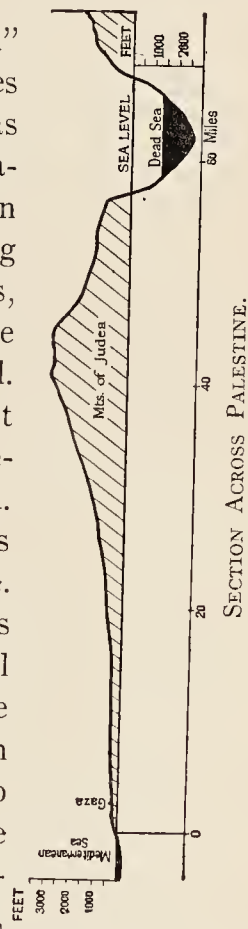


THE DEAD SEA, JERICHO, AND THE MOUTH OF THE JORDAN.
(From a drawing by J. M. W. Turner, R.A.)

"fault" of the Dead Sea region was a "slipping" of strata upwards, not downwards, and that the region east of the Jordan was subjected to the greater pressure from below. This famous "fault," it should be added, is a recent geological incident, as the cliffs have not yet been worn down to accessible slopes, nor have the canyons gone far on the way to become valleys.

In the region of the Palestine "fault" there was originally a lake 200 miles long, with water of the same level as that of the Mediterranean. Evaporation gradually exceeded the rainfall in this district and the waters of the long narrow lake, in the process of the ages, fell lower and lower till something like the present conditions were reached. The Sea of Galilee is to-day 682 feet below sea-level. The River Jordan descends over 600 feet on its way south. The Dead Sea is now only 47 miles long and nine-and-a-half miles wide. The surface of this diminished lake is now actually 1,300 feet below the level of the Mediterranean. As a result, the Dead Sea has no outlet. The Jordan pours its waters in; the watershed to the South is 2,100 feet above the lake level; on the east are the rapidly rising terraces of the plateau of Moab, 3,000 feet above the lake; on the west rise the mountains of Judah, 3,300 feet above the water's level.

The Dead Sea is not a shallow sea, although its waters



lie low in the general landscape. At its northern extremity it is, indeed, 1,300 feet deep. Accordingly, the great scar in the earth's surface at this point has a total depth of 2,600 feet below the level of the Mediterranean, exactly half of it above the Dead Sea and half of it below. Toward the southern extremity of the lake the bottom slopes up rapidly, and is in places only ten or fifteen feet deep.

Although the sea has no outlet, it has numerous feeders. The Jordan in the rainy season sends in millions of tons of water daily. Moreover, the slopes on each side of the lake are furrowed with watercourses, either perennial or temporary winter brooks.

The evaporation which takes place in this region during the hot season has caused the lake to be impregnated with salts and other mineral substances to a remarkable degree. Ocean water, as is well known, contains only about 4% of salts, whereas the Dead Sea has 26%. The principal salts are, sodium chloride (common salt), magnesium chloride, and potassium chloride (well known as a fertilizer).

On the south shore of the Dead Sea stands a remarkable ridge of rock salt, seven miles long and three hundred feet high, called "Ridge of Sodom." It is doubtless a remnant of the evaporation of long ages ago, when the lake extended much farther south. Lava beds, pumice stone, and sulphur, in this "Sodom Ridge" region, tell a tale of ancient volcanic activities.

The water of the Dead Sea is very dense. On account of the solid matter in the waters they are buoyant and to a certain degree poisonous. The human body floats easily on the surface. If a bather advances into the lake with the intention of going beyond his depth, he is

surprised to find that when the water touches his arm-pits he floats and his feet are carried off the bottom. On account of the noxious character of the waters, no fish can live in the Dead Sea. Recent travellers deny the last statement and declare that they have seen fish swimming near the shores of the lake. This may be so, if one watches near the point where the Jordan or some mountain brook flows in, for there the water is fresh and free from deleterious elements.

The salts of the Dead Sea have become commodities of commerce. The sodium chloride becomes common salt and is sold in Jerusalem in large quantities. The other salts are also every year increasing in commercial importance and value.

Navigation on the Dead Sea is almost nil. Till 1917 the lake belonged to the Sultan of Turkey. Since that time one may see an occasional sloop on the lake. Indeed, a boat 40 feet long and run by a kerosene engine is the latest craft to be reported. It carries barley from the south-east and sometimes a few passengers.

The Dead Sea was given its present name by late Greek writers. In Biblical times it was called "The Salt Sea," or "The East Sea." In Palestine its ordinary name is Bahr Lūt, the Sea of Lot. The story of Lot and the fate of Lot's wife account for the origin of the present appellation.

The turning of Lot's wife to a pillar of salt is not so strange as would appear to one ignorant of Dead Sea conditions. There are hundreds of salt pillars about the shores of the lake. Saline incrustations are found everywhere,—on cliffs, on beaches, on trees, and even on blocks of stranded wood left for a few months to the action of

the waters. The Jordan brings down trunks of trees and branches, which, lying on the beach, are soon covered with layers of salt and look like the skeletons of stranded monsters.

The history of the gradual sinking of the waters of the Dead Sea through hundreds of centuries is written in permanent records on the high banks. The old shore lines are clearly marked on the rocky declivities. At 1,430 feet above the present lake surface can be seen the highest of the old beaches. The others are clearly outlined at the following heights,—540 feet, 430, 300, 250. So we have, in characters not to be gainsaid, a declaration of the fact that the sea once stretched at least thirty miles farther south. To the north it reached to the Sea of Galilee and beyond, as has already been stated. The oldest of these shore lines takes us back, of course, to the glacial period. Below the 250 foot beach are several minor beaches even more distinctly marked, such as those at the height of 210, 170, 145, 115, 90, 70, 55, 40, and 12 feet above the present surface level. That the waters of the Dead Sea are not continuously sinking is proved by the irrefutable fact that the surface level is to-day considerably higher than it was fifty years ago. Dead palms and tamarisks standing in the water near the shore show that in 1860 or 1870 the level of the lake was at least eight feet lower than at present. But over long periods of time the general recession of the waters still goes on. There is no doubt, for instance, that in the time of Christ the Dead Sea was considerably higher than it is to-day, perhaps forty or fifty feet.

Several problems regarding present Dead Sea conditions remain to be solved. Along the north and south

axis of the lake, almost every morning, may be seen a remarkable line of white foam. It appears to follow the line of the fissure in the earth. Some think it is due to the current of the Jordan; some, to subterranean commotion. Another mystery to be solved is the northward current nearly always observable along the east coast. Is the Jordan the cause of this also? Or are there secret activities below the waters?

The legends told by mediaeval travellers regarding the Dead Sea all have a basis in fact, or are now easily explainable. The belief that no birds ever fly over the lake was due, doubtless, to the fact that there are no fish in the lake. The story that no plants can live in the poisonous air is certainly foolish; but there is a striking absence of vegetation around the lake, a result of the scanty rainfall. The noisome vapors and stinking waters so often reported by travellers are no more than the mists and the smells created by the great heat and the excessive evaporation.

The most famous story of the Dead Sea region is that of the destruction of Sodom and Gomorrah. Early travellers, following the dictum of Josephus, looked with awe upon those waters which, they believed, covered all that remained of the cities of the Vale of Siddim. That Sodom and Gomorrah cannot lie under the Dead Sea is certain, for the sea was there much as it is to-day long before the time of Lot.

Another story of Josephus which had wide credence for centuries was the existence in the Dead Sea region of a fruit called "The Apple of Sodom," or "The Dead Sea Apple." It was supposed to grow on the southwest shores of the lake, on or near the site of ancient Sodom.

180 STRANGE CORNERS OF THE WORLD

Josephus says that it was beautiful to look upon, but that it turned to ashes when plucked! This refers, without doubt, to a species of prickly plant called by botanists *solanum sodomaeum*, with fruit not unlike a small yellow tomato.

After all, the chief interest for the Christian traveller in the Dead Sea country is not the Salt Lake itself, but rather its immediate surroundings. Fifteen miles to the west is Jerusalem. Ten miles to the north-west is Jericho. Five miles to the east is Mount Nebo. Twelve



BETHLEHEM.

miles to the south-west is Bethlehem. A few miles north, in the Jordan, our Lord was baptized by John. From a little hill overlooking the Dead Sea, in the same quarter, Elijah was carried to heaven.

The Old Testament has numerous references to the Dead Sea. "All these (the four kings against the five) were joined together in the Vale of Siddim, which is the Salt Sea (Gen. 14, 3)." "And the border (as outlined to Moses) shall go down to Jordan, and the goings out of it shall be at the Salt Sea" (Numbers 34, 12). "Those (waters) that came down toward the Sea of the Plain,

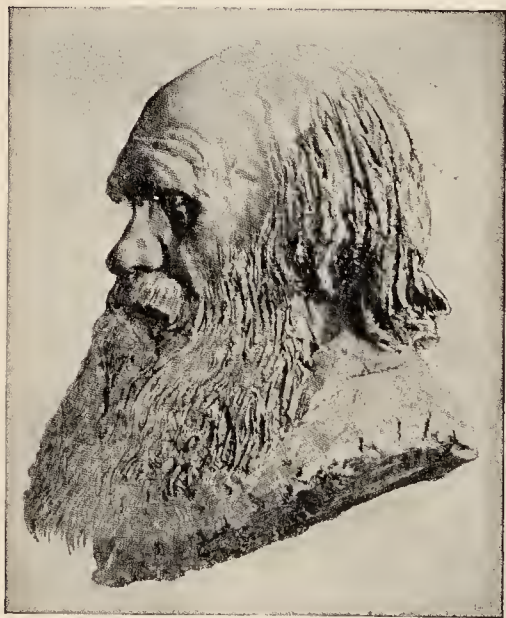
even the Salt Sea, failed and were cut," referring to the dividing of the Jordan to let Joshua and his army pass over. (Joshua 3, 16).

A recent discriminating traveller, Ellsworth Huntingdon, sums up the possibilities of this strange lake as follows:

"The future holds nothing in store for the sea better than the past. The hot, unhealthy coasts may in time be visited for their scenery, or for their associations, but the sea is dead, and out of it no life can come."

DWELLERS IN "FARTHEST SOUTH"

PERHAPS no other voyage was ever made in the history of the world which has exercised so vast an influence on mankind as the voyage of *The Beagle* (1831-1836). Charles Darwin, the naturalist of that expedition, during those five years of travel and investigation, laid the foundations of his great fame. In one quarter of the world which he visited he left his name and the name of his ship. Beagle Channel, Darwin Sound, and Mount Darwin, in close proximity in the very south of South America, tell us



CHARLES DARWIN.

of the tortuous movements of the exploring vessel as it made its difficult way amid the dangerous waters of Tierra del Fuego. His generalizations as to the land and the people were not always accurate, as more recent discoverers have shown. For instance, he declares, in the records of his voyage, that there is not a level acre of ground in the whole region of Tierra del Fuego. We now know that there are

many thousands of acres of fertile meadow land. He also alleged that the Indians of the island were cannibals. We are now fairly certain that he did an injustice to all three tribes of the aborigines of these secluded wastes.

Of the other great names connected with Tierra del Fuego, Magellan, of course, comes first. When he, in 1520, threaded his way through the strait which now bears his name, and saw the fires which the Indians kept burning all along the coast, partly as signals to one another but mainly, it is believed, for comfort during inhospitable weather, he gave the island the name which it still retains,—“The Land of Fire.”

Fifty years after Magellan came hither Francis Drake, the first Englishman to see these shores. The five vessels with which he left England were reduced to three off the treacherous coast of Brazil, and later to one amid the windings of the Strait of Magellan.

When the Dutch sailor, Shouten, passed the most southerly point of the Continent in 1616, he called that great rock in the ocean by the name of Cape Hoorn, after a town on the Zuider Zee in Holland. The English who came after him called it “Horn.”

In 1774 James Cook, during his great voyage of 1,000 days and 60,000 miles, rapidly surveyed the “Land of Fire.”

The mighty Argentine Republic reaches a long arm down almost to Cape Horn. The elongated Republic of Chile stretches another arm to the very Cape. Near the artificial boundary between the two rival territories, on the Argentine side, and on the north shore of Beagle Channel, is situated the strangest community in the world. The little town of Ushuaia (pronounced Ooshooowia) is

the capital of the Territory of Tierra del Fuego, a dependency of Argentina. It has a population of about 1,500, of a very heterogeneous character. As the penal settlement of Argentina, it contains two prisons, one military, and one civil. The prisoners, usually about 300 in number, make up a fifth of the population of the place. About fifty officials are needed to guard the prisoners and to oversee their daily labors. The citizens of the town are engaged in odds and ends of work,—keeping shops or saloons, cutting timber, raising sheep, or earning a precarious living in one of the common trades.

The prisoners, although some of them belong to the very dregs of Buenos Aires humanity, scarcely ever attempt to escape, for there would be no means of getting out of the country, and if they did escape into the hilly district to the north they would soon return for food or for human companionship. Of course, a strong posse of guards watch the prison gates, or superintend the various occupations of the prisoners. The convicts work on the roads, dress stones for building purposes, or make coarse garments for themselves or others.

Ushuaia has about a hundred wooden houses, all of one storey. These humble homes all face the waters of Beagle Channel and are close to the shore. In very recent years a limited supply of electric lights and a few telephones have given a modern air to this sequestered colony. The traveller sees, at a little distance from the bay, an old Protestant church, falling to decay, telling of the efforts of Gardiner, and Stirling, and Despard, and Lawrence, and Bridges, to civilize and convert the Indians of the island. Rev. Thomas Bridges lived here for thirty years as missionary and farmer. That was before the days

of the prisons and when the wild Yaghans were still numerous in the region roundabout. The only public buildings in the town are a schoolhouse, a church, and a building which serves as the headquarters of the constabulary.

Ushuaia lies in latitude 55° South, and so it is farther south than any other settlement in the World. It is 1,400 miles farther south than Cape Town and 500 miles farther south than the southernmost point of New Zealand. It has little communication with the outside world. A monthly steamer comes down from Buenos Aires, and occasionally an Argentine warship arrives with convicts for the prisons.

A visitor to this isolated region, casting his eyes about on the majesty and bleakness of nature, feels a certain loneliness. Bounded on the north by an impassable barrier of rugged rocks, mantled by perpetual snow, and on the south by the wind-swept Beagle Channel, Ushuaia does not attract the stranger or allure him with any promise of comfort. Life in this desolate place is, however, not quite so hard as a casual observer might imagine. The winters are stormy, but not severe; the summers are pleasantly cool. Indeed, the mean annual temperature is 43° , about the same as that of Montreal. But the difference between the low temperature of June and the higher temperature of December is not great. The chief cause of discomfort here is the wind, which blows for days at a stretch along the length of the Beagle Channel. Rains, too, make the weather inclement, for the annual precipitation in the island is thirty-five inches.

The vegetation of Tierra del Fuego is that of the temperate zone, as the latitude indicates, and not that of the



CAPE HORN.

frigid zone, as is commonly imagined. Trees, bushes, ferns, mosses, cover the mountain slopes for the first thousand feet. The most common tree is the beech, the ever-green species being abundant and beautiful. The small farmers of the island raise in their gardens the common vegetables, potatoes, turnips, peas, cabbages. The farmers with large holdings devote their attention mainly to cattle and sheep.

Sheep were first brought to Tierra del Fuego in 1878 from the Falkland Islands, about 200 miles to the east. Within seven years there were 40,000 sheep in the island. To-day there are 2,000,000. The grasses of the moorlands are rich and sweet; so the quality of the mutton and wool is very high. The wool is snowy white and takes the most delicate dyes. Most of the shepherds are Scotch, who come to this remote place on five-year contracts. It is said that the sheep of the island become so fat on the rich pastures that if an animal stumbles and falls, it cannot get up again. The shepherd must raise the kicking creature before darkness comes, or the vultures hovering above will easily make a prey of the struggling victim.

It is not the vultures alone that the shepherd has to fear. Foxes, wild dogs, and panthers, prowl about near the flocks. A panther has been known to kill 100 sheep in a night. Nor are wild beasts the only dread of the shepherds. Sometimes the wild Onas Indians of the north swoop down and drive off to their caves 500 sheep at a time. Other foes of the sheep-farmer are the millions of rats that infest the meadows, eating the grass, and tunnelling the earth so that the productivity of the soil is lessened.

In Tierra del Fuego there are three distinct classes

of Indians. Those who roam in the wilds about Ushuaia are the Yaghans. There were 3,000 of these savages in the district when the white man first came. When they began to wear clothes like the white intruder, disease crept among them and decimated them. To-day only about 500 remain.

The Yaghans, unlike the very tall Onas of the north, are a short-legged race, their stature being affected, it is said, by their spending the greater part of their days in canoes. This custom is due to the fact that they live almost entirely on fish. Travellers tell us that the canoes of the Yaghans are paddled almost entirely by the women, the men being the fishers. These Yaghan women are fearless swimmers, easily surpassing their men in speed and endurance.

The Yaghans differ much from other aboriginal tribes. They have lighter skins than the Indians of North America. Their straight, black hair is singed at the crown to form a sort of tonsure.

The language of the Yaghans is entirely oral, as they knew nothing of writing. Their vocabulary is astonishingly rich. The Rev. Thomas Bridges, who lived with them so long, made a Yaghan-English dictionary, containing 40,000 words. The richness of their vocabulary is partly due to their amazing independence. They have no chiefs and no laws, each family being a law unto itself. They are always coining new words, which do not, however, become a part of any tribal vocabulary.

The Yaghans, sad to say, have no religion, as there is no tribal unity or organization. Although the families are absolutely independent of one another, they are very socialistic. They visit one another's cabins without invi-

tation, even in the absence of the owners, and partake freely of food, wherever they happen to find it.

While the Yaghan has no religion, he has many superstitions. No word for "God" or "prayer" finds a place in his abundant vocabulary. He has a word for "spirit," but he refrains from using it, lest the mere mention of the word should draw the demon to him. When a Yaghan dies, his or her name must never again be mentioned. For them there is no future life. All the property of the dead must be utterly destroyed. Even the dogs of the departed are drowned and their canoes are burned. Soon, it is feared, the last of the race of the Yaghans will cease to exist and their name will no more be mentioned in the earth. Their life of despair in a godless bog of irreligion is without vitality, and the end of this strange folk draws very near.

THE STORY OF THE THREE ISLANDS

THE Three Islands are all in the Pacific Ocean, but they are thousands of miles apart. Although remote from one another, they are linked together by the queerest tale in all the annals of the seas. Strange to say, a wicked man bearing the good name of Christian—Fletcher Christian—was the cause of all the trouble and of all the varied and amazing events which followed his original crime.

The first of the three islands is Tahiti, half-way between Peru and Australia. It is, as perhaps you know, the largest of the Society Islands, a group of islands so called by the great Captain Cook in honor of the Royal Society, which sent him there in 1769 to view under the best conditions the transit of the planet Venus across the face of the sun. We cannot follow the famous captain in his astronomical pursuits, for our story has to do with Fletcher Christian and the women of Tahiti who lured him and his mates from the path of duty and abetted them in the awful deed now to be described.

In the year 1789, memorable for the outbreak of the terrible French Revolution, a British man-of-war, the *Bounty*, in command of William Bligh, was sent to Tahiti for a cargo of young bread-fruit trees, which the government intended to plant in the West Indies. After staying in the island six months, Bligh set sail towards the west. Many of his sailors who had, in accordance with the cruel practice of those times, been pressed into service against their wishes, were loath to leave the lovely

island and especially the attractive women of the island, for, you should know, the women of Tahiti are the most beautiful in face and figure of all the women of the Pacific islands.

On that April day, never to be forgotten, when the good ship, the *Bounty*, started on her long voyage, no sooner had Tahiti passed below the horizon than the captain noticed among his crew a certain restlessness and sullenness. After a few days, when they neared the Friendly Islands, Bligh completely lost control of his men, who longed for the easy life of the island which they were rapidly leaving behind, for the kindly companionship of the men, and for the smiles of the women whose dreamy beauty had enchanted them. The outcome of the curious situation was at last an open mutiny, carried through to its bitter conclusion. Bligh and most of his officers, and those of the crew who wished to remain loyal, were placed in an open boat and set adrift to fare as they might. The story of Bligh's remarkable voyage, which took him, after many months, to the Dutch East Indies, four thousand miles away, as well as his subsequent exploits in connection with Nelson's victories and his promotion to the post of admiral, must be read elsewhere, in Byron's poem, "The Island," and in Bligh's own "Narrative of the Mutiny." We are now to follow the fortunes of the black-hearted mutineers.

Back to Tahiti (Byron's old spelling is Otaheite) the twenty-five rebellious sailors hastened in King George's ship, the *Bounty*. There they planned to remain the rest of their days. Not unlike the "Lotos-Eaters," they thought that the island paradise of Tahiti would be

“more sweet than labour in the deep mid-ocean, wind, and wave, and oar.”

After a few months it began to occur to the leaders of the mutiny that the arm of British justice was very long, and that whether Bligh and his companions reached home or not, a search for the guilty ones would almost certainly be made. Accordingly, the next year Fletcher Christian and eight others of the mutineers, with six Tahitian men and twelve Tahitian women, sailed off in the *Bounty* to seek some place of refuge far away, where their sins could not find them out. Six of the British tars who remained in Tahiti were caught there shortly afterwards and taken for trial to England, where three of them were executed for treason against the British crown.

Our story has mainly to do with Christian's adventures after he left Tahiti. Over twelve hundred miles away the fugitives at last landed on a little island, whose steep and rugged shores were in places two thousand feet high. This island had been observed about twenty years before by a midshipman named Pitcairn, who had called it by his name, but had left it unexplored. It appeared to suit the needs of the newcomers. The place was exceedingly small,—only a mile wide and two-and-a-half miles long, but it was very fertile, they soon found. It was roomy enough for all their needs, for they were only twenty-seven in number. They at once settled down, built comfortable little huts, and sowed some grain which they had brought with them. Life was now to be safe for them and their consciences would, they hoped, give them rest. Not to be reminded of the past, and to prevent any idle longings for future sailings, they burnt the *Bounty*



THE ISLAND OF TAHITI.

at the ocean's edge. They had yet to learn, as Byron writes in "The Island,"

"Whatever creed be taught, or land be trod,
Man's conscience is the oracle of God,"

and, moreover, that not only would the divine voice make cowards of them all, but the demons of mistrust and suspicion would scourge them cruelly.

The curtain is now drawn on that guilty company till 1800. Punishment came in ways they had not dreamed



THE HOME OF JOHN ADAMS ON PITCAIRN ISLAND.

of. At the end of ten years only one man survived. From the beginning they suspected one another and trouble dogged the little community from their first days in the island. They learned how to make rum from the abundant tropical fruits, and they all became drunkards. Jealousies and the madness of anger took off one after another. Disease and debauchery played havoc with weakened frames. In the last year of the century some

travellers found there only one man, a few women, and a considerable colony of children from one to nine years old.

This man who survived, Alexander Smith, had assumed the name of John Adams, which was the name, whether Alex. Smith knew it or not, of the president of the United States at that very time. When all his associates were dead, he brooded over his crimes and, influenced by the early training of his pious mother in England, he determined to blot out the past forever and to devote the rest of his life to the proper education and moral up-bringing of all the half-caste orphans left on his hands. He nobly carried out his vow. For nearly thirty years, till 1829, he toiled day and night for the welfare of this Pitcairn colony. On three occasions during that time British vessels called at that remote island and found John Adams faithfully shepherding this model community. Fortunately, the year before Adams died, there came to the island a stranger, George Hunn Nobbs, who after Adams' death took up the rôle of chief magistrate and spiritual guide in the island settlement. Next year, 1830, a drought came to the island, and, fearing famine, the islanders took advantage of the arrival of a ship from Tahiti, and all went back to the homeland of their mothers. Finding the climate of Tahiti and the morals of Tahiti not entirely to their liking, most of them returned to Pitcairn within a year. In 1839 the island was added to the realms of the young Queen Victoria of England; and good people throughout the world became greatly interested in the romantic story of Pitcairn. Many curious travellers visited the island and treated the inhab-

itants so luxuriously that evil results soon showed themselves.

In 1856 there were about two hundred descendants of the original settlers in the island, and it was recognized in England that an area so small could no longer support the colony. At the expense of the British government the Pitcairn folk were carried to a much larger island in the west. Sixty married people and one hundred and thirty-four young men, young women, and children, left their beloved home to settle in a paradise prepared for them 3,000 miles to the west, in the same latitude.

Norfolk Island, the new home of the colony, 1,100 miles north-east of Sydney, had been discovered by Captain Cook on one of his numerous voyages. Fifty years later it had been taken over by the British government and used as a settlement for criminals transported from Van Diemen's Land (Tasmania) and from New South Wales. The history of that ill-famed island near Australia for the next thirty years—the record of the floggings, the chains, the executions—does not concern us now. It is enough to say that before the arrival of the Pitcairn islanders the convict station had been abolished and the government barracks and prison had been turned into schools, churches, and a courthouse. The whole island, thirteen square miles in area, had been cleared and laid out like an English nobleman's park. Bridges and roads had been made, as well as every convenience which would serve to make the new settlers contented and prosperous. It is true that the convicts had done most of this work before they were removed elsewhere, but even they had worked with a will on the government project, as it meant for them a new adventure in some

other place instead of the deadly monotony and hopelessness of the grim years they had spent under the strict and often cruel guard of their jailers.

The immigrants from Pitcairn arrived on the scene to find a lovely home all ready prepared for them by the very government which their grandsires had defied sixty-six years before. They settled down at once to a life of contentment and strict sobriety. They were visited occasionally by whaling-ships, which carried back to Australia and to England glowing reports of the innocence and virtue of the wonderful colony. Queen Victoria on several occasions showed her interest and good-will by sending them clothing and other bounties. Their fields and orchards soon produced more than they needed—wheat, grapes, oranges, lemons, figs, pine-apples, guavas.

In 1867 a mission station was established by the Church of England. In 1882 a beautiful church was erected, having a window designed by Burne-Jones and executed by William Morris. The island has, in fact, been for some years the head-quarters of the English Church Melanesian Mission, which includes the Solomon Islands and the New Hebrides.

But all this attention, however well meant, was not entirely good for this simple people. Whispers began to be heard in Australia and New Zealand that all was not going well with this pampered people. At last New South Wales sent a Commission to investigate, and their Report as to conditions was not altogether favorable. Quarrels and outrages and lax morality had followed the epoch of innocence. Accordingly, about the beginning of the present century, Norfolk Island, with the consent of the people, was annexed to New South Wales, and a magis-

trate from Sydney now rules the great-great-grandchildren of the British tars and the Tahitian savages who made so strange a union over a hundred and thirty years ago.

It is interesting to notice that to-day there are only eight surnames among the 800 people of Norfolk Island, for they all bear the names of Adams, Nobb, Fletcher, Young, Buffet, McCoy, Quintal, or Christian; nearly a hundred, without any sense of shame or remorse, boast the surname of the ring-leader of the mutiny of 1789.

All the people of the island are so intimately related that everyone is a relative, several times so, of everyone else; and everybody acts and thinks as does everyone else. They all are passionately fond of music. They all have voices low and musical. They all show an easy and constant courtesy to the stranger. In color there is much variety among them. Some retain the beautiful coffee-brown hue of Tahiti; some are as dark as natives of Italy; some are as fair-skinned as the palest of the English. Their types of features, too, differ as does their color.

Besides the 800 Norfolk islanders there are to-day about a hundred whites on the island, who mostly belong to the Cable Station, for the island now is one of the main stations of the British Pacific Cable Company.

And what of Pitcairn? Is it quite uninhabited to-day? No, not quite, for about two hundred people make it their home. And who are the present inhabitants of this historic island? Back we must go to Norfolk Island if we would learn the story of these later Pitcairn folk. Two years after the original Pitcairn islanders had been removed to Norfolk Island, two families yearned for their former island home and returned to Pitcairn. Others

followed from time to time. Twenty years later the little colony was reported as prosperous and happy. By 1900, however, continued inter-marriage and the monotony of their narrow life had affected the energy and even the morality of the people of Pitcairn to such an extent that some travellers declared that the islanders were drifting towards imbecility. Later reports, however, indicate that these children of nature are apparently normal in most respects, and that the earlier reports were not quite fair to them. They have a form of religion derived from that of their English ancestors. They are a simple tribe, dwelling little on the past and taking no thought of the morrow. One hundred and seventy of them live lives of ease in a climate never severe from heat or cold. Their food costs them little exertion, for wheat grows without fail, yams and bananas and melons are abundantly in excess of their wants, wild goats supply them with milk, and wild chickens have become so numerous that one of their chief problems is how to kill them and eat them fast enough.

THE PASS OF DESTINY

OF ALL the passes in the world, that bleak and barren gorge, thirty-three miles in length, which leads from the North-West Frontier Province of India to the rugged highlands of Afghanistan, is altogether the most important. The whole of the Pass lies within the territories of the Afridis, a Pathan, or Afghan, tribe, which has continually for two thousand years overflowed into India and has caused the rulers and people of India, whether native or British, incessant trouble, breaking out frequently into open warfare. To-day there are 3,000,000 Pathans, or Afghans, in India; and of these the 100,000 Afridis are the most restless and dangerous. Their chief town in India is Peshawar, only eleven miles from Khyber Pass. The traffic from India through the Pass leads, therefore, from Peshawar to Jalalabad and Kabul.

The Afridis deserve more than a passing notice. The men of this famous clan are tall and athletic and handsome; and they all have a proud and arrogant bearing, even when engaged in carrying fire-wood or in other menial occupations. By nature they are vain and treacherous, although it must be admitted that the Khyber Rifles of the last century, composed entirely of brave Afridis, remained loyal to the Indian Government all through the Revolt of 1897. The Afridis of the hills are predatory to a degree, and it is perilous for strangers to travel between Peshawar and the Pass, or along the

Pass, except under a strong escort. Cut-throat Pathan robbers haunt every turn of the road.

The defile of Khyber winds between tall cliffs of shale and limestone 600 to 1,000 feet high, with higher moun-



KHYBER PASS.

tains in the distance, north and south. As you enter the Pass from the plain of Peshawar, you come first to Fort Jamrud, which commands the British end of the Pass. Three miles beyond Jamrud the road enters the hills at

an opening called Shadi Bagiar, which is the beginning of the real Pass. The road runs from here through the bed of a ravine and then ascends to the plateau of Shagai. Soon you come to the Fort of Ali Masjid, commanding the middle of the Pass. This spot has been the very centre of many a famous siege, and of some disasters to



A GROUP OF AFRIDIS.

British arms. The road beyond this winds and twists by a zig-zag course along the little river of Ali Masjid. At one point the defile is only fifteen feet wide, with overhanging cliffs 2,000 feet high. Three miles farther on the valley widens, and several Afridi hamlets come into view. Another seven miles over a rugged, bleak plateau and you arrive at the last part of the Pass, Landi Kotal,

formerly held by the British when they controlled the whole Pass. Landi Kotal is the highest point of the Pass, —nearly 2,000 feet higher than the Afghan Fort Dhaka at the extreme western edge of the slope towards Kabul.

The vegetation which one notices in this journey of thirty miles is very scanty. It is true that giant conifers over a hundred feet high are seen on the elevation above the highway, but near the road only dark-green scrub appears among the barren rubble rock. This scrub affords precarious sustenance for the scrawny sheep which the borderland ruffians attempt to raise. The whole landscape throughout most of the defile is wild and desolate. No doubt the cave-dwelling Afridis of these tracts are driven by stern necessity to exact from travellers all that violence can compass.

For 2,000 years, and perhaps for much longer, this Pass has been making history. Indeed, there is in no other region on earth a pass possessing the strategic importance of this gate-way through the Safed Koh (white mountain), an offshoot of the Hindu Kush range.

Four centuries before the Christian era Alexander the Great on his way to India must have taken a part of his conquering host through Khyber Pass. It will be remembered that he penetrated India as far as the Hydaspes (Jhelum), about 150 miles south-east of Khyber, in the year 327 B.C. He did not return by the Pass, but chose the valley of the Indus on his way home.

The famous Afghan conqueror and patron of literature, Mahmud Ghazni, almost a contemporary of William the Conqueror, swept through Khyber Pass almost annually, with the settled purpose of destroying the Hindu religion and of setting up the religion of Islam in its place.

Back through the Pass moved his yearly cavalcades, laden with precious spoils seized in Indian temples.

The great Mongol, or Mogul, emperor, Jenghiz Khan, after his conquest of China, moved south-west into India and Afghanistan. After ravaging the provinces of Lahore and Peshawar he hurried, in 1232, through Khyber Pass with 80,000 veterans and laid siege to Herat. The strong city held out for six months and then met a horrible fate. Only forty people survived the cruel massacre of 1,600,000. The butchery lasted for a whole week, the most dreadful in the long list of the world's massacres.

Near the end of the following century Khyber Pass saw the armies of the greatest of Mongol leaders, Timur the lame, or Tamerlane. At the age of sixty, in 1398, when the last Plantagenet was weakly ruling England, Tamerlane marched from the Mongol capital, Samarkand, towards the Indus, by way of Khyber Pass. He took and burned Delhi and massacred all the inhabitants. Back through the Pass of Khyber the victor retired with immense spoils of victory.

While Henry VIII ruled England, a fiercer lord by far than he was establishing the Mogul dynasty in India. Baber, the Tiger, a descendant of Tamerlane, captured Herat and Kabul, and then turned towards India. Through the Pass of Destiny his long train moved on the way to Delhi. In 1526 he fixed his new capital at Agra, not far from Delhi. From Agra, we are told, he carried back through the Pass on his way to Kabul the splendid Koh-i-noor diamond.

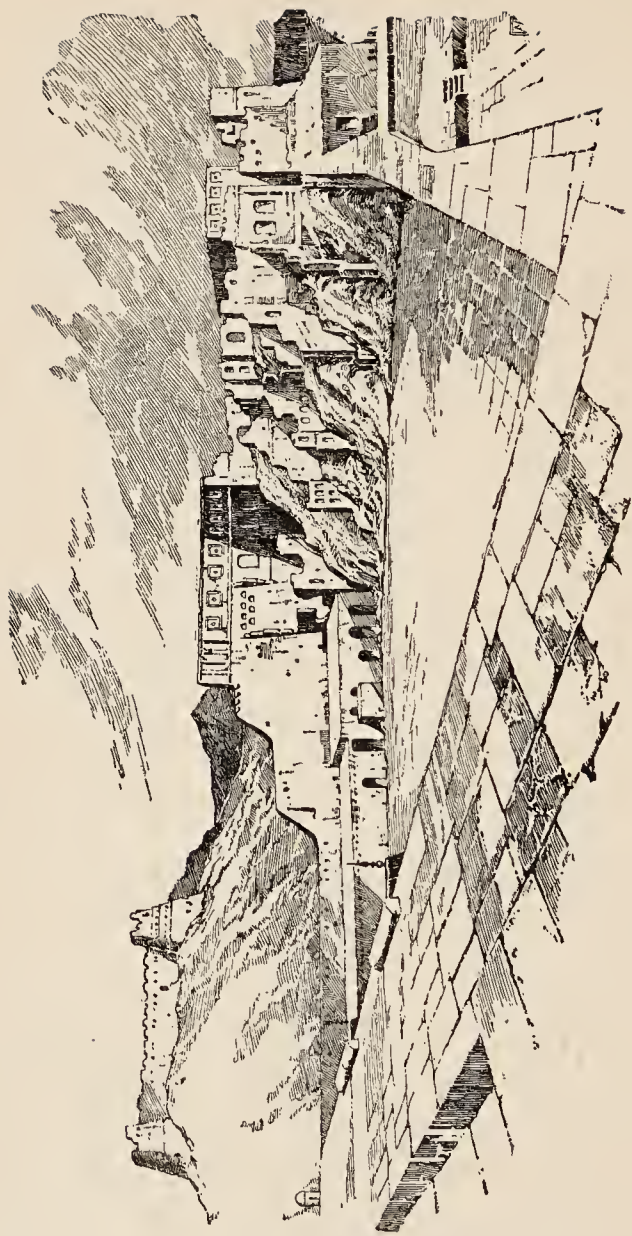
In the 18th century, just when Clive was conquering new realms for England in the East, and Wolfe new realms in the West, a remarkable Afghan chief, Ahmed

Shah, founded the new dynasty of Durani in his own country, and then marched by Khyber Pass into India. He took Lahore in 1748 and in 1756 he marched to Delhi. For a whole month he pillaged and massacred there. He had to return from Afghanistan year after year in a vain endeavor to hold his Indian conquests.

During the last eighty or ninety years Khyber Pass has on three or four occasions caused much concern to the British Government. In the First Afghan War (1839) Col. Wade stormed and took Ali Masjid, the Afridi stronghold in the Pass. At Ali Masjid, in 1878, a friendly British Mission was stopped, thus causing the Second Afghan War. Again the Pass was stormed and captured. It was in this war (1879) that General Roberts (then Sir F. Roberts) rushed through the Kurram Valley, a little south of Khyber Pass, with his three brigades, and hastened towards Kabul, while a similar force under General Bright took the Khyber route. After Roberts' signal victory the two forces again united.

After eighteen years of peace the Afridis stirred up a spirit of fanaticism throughout the North-West Frontier, and seized Khyber Pass from Col. Warburton. This was the cause of the Tirah Expedition of 1897 against the wild Afridis.

Till 1919 the foreign relations of Afghanistan were controlled by Great Britain, but in August of that year a treaty was concluded giving full independence to the country. In 1921 a complete accord was reached with the Afghans, by which compact Britain and Afghanistan are bound to respect the internal and external independence of the other, and to recognize and maintain all existing frontiers.



THE BRITISH RESIDENCY, KABUL, AFTER THE RISING OF 1879.

A traveller to the Pass will to-day be confronted at Fort Jamrud with a bold notice which runs thus:

IT IS ABSOLUTELY FORBIDDEN
TO CROSS THE BORDER
INTO AFGHAN TERRITORY

The fact that this notice, and the hundreds of similar notices along the whole border, are printed in English, is significant. Afghan independence means to the Afghans independence from England!

One memento from Khyber Pass England holds securely. The great Koh-i-noor diamond, which Baber carried through the Pass on his way from Agra to Kabul, and which Nadir Shah, the Persian conqueror, as well as Ahmed Shah, the Afghan chief, prized above all their other jewels, and which became later the property of the Rajah of Lahore, eventually came into the possession of the East India Company. In 1850 it was presented to Queen Victoria. The invaluable stone then weighed 186 carats. This "Mountain of Light" may be viewed by anyone in the Tower of London among the Crown Jewels. On great occasions Queen Mary wears this magnificent jewel.



Still through Khyber Pass, about once a week, move long caravans of camels, sometimes 800 of them, plodding to or from Kabul, laden with bales of cotton or woven fabrics—rich silks and gorgeous carpets—wool and hides and

salt and all kinds of oriental merchandise. Afghanistan has as yet but few wheeled vehicles and these picturesque caravans of camels are still common.

¹The road through Khyber Pass is now in excellent condition, thanks to the century-long efforts of British engineers. Even Afghan motor cars now safely speed from Peshawar to Kabul. All the labor and expense lavished by Britain on this famous highway have now been sacrificed in the interests of international comity, in accordance with the generous policy adopted recently by the British Government in dealing with all alien peoples. The success of the new policy is not yet quite assured. There is an apprehension in India that some day

“The flying bullet down the Pass
That whistles clear: ‘All flesh is grass’ ”

may stir up a Third Afghan War, and British soldiers may again be forced “to canter down the dark defile and slay Afridis where they run.”

¹In June, 1925, a British railway into Khyber Pass was opened. With this communication established the British can in a very short time muster a strong force from the military camps of India for use on the borders of the Afghan territory.

THE GREATEST OF BARRIER REEFS

WHEN, in 1770, Captain James Cook sailed northward from Botany Bay along the east coast of the newly discovered continent of Australia, he found the waters of the Pacific, more and more as he stretched northward, very pacific indeed. He kept close to the coast, which he was mapping, and so for a long time was ignorant of the cause of the unusual calm. Suddenly one night, without any sign of breakers or land ahead, the water was found to shoal. While he was in the act of ordering out the boats to take soundings, his great ship, *The Endeavour*, struck heavily and leaned over menacingly, so that he had quickly to part with guns and spare cables and other heavy gear in order to lighten her. With difficulty the vessel was floated off with the next tide and Cook made for land. Cape Tribulation was the name he humorously gave to the nearest headland, and that name it bears to this day to remind us of the great seaman's adventure off this coast.

We now know the cause of the abnormal quiet of these waters and of the treacherous nature of these coasts. It remained for another English sailor to solve the mysteries of this remarkable tract of the southern Pacific.

Thirty years later, in 1801, Matthew Flinders was appointed to the command of an expedition for the thorough exploration of the coasts of Terra Australis, as the southern continent was called. On his ship, *The Investigator*, was a young midshipman, destined one day to

gain world-wide celebrity for his Arctic voyages,—John Franklin. Flinders spent the first year near the west and south of the new-found continent. The east coast he examined in the summer of 1802.

Through a strange misadventure his records were not published till twelve years later.

He lost his ship and had to proceed home as a passenger on another English vessel. On his way he was taken prisoner by the French, with whom the English were then at war. For eight years he was held at Mauritius. His ill luck followed him to England, for he died in 1814 on the very day of the publication of his great work, "A Voyage to Terra Australis." This book describes in detail the wonders of the Great Barrier Reef.

Readers of Flinders' book will remember the famous passage which tells what he saw at one of his anchorages among the reefs at the northern end of "The Great Barrier":



COOK'S SHIP *Endeavour*.

"In the afternoon I went upon the Reef with a party of the gentlemen; and the water being very clear round the edges, a new creation, as it was to us, but imitative of the old, was there presented to our view. We had wheat sheaves, mushrooms, stag's horns, cabbage leaves, and

a variety of other forms, glowing under water with vivid tints of every shade betwixt green, purple, brown, and white, equalling in beauty and excelling in grandeur the most favourite parterre of the curious florist. There were different species of coral and fungus, growing, as it were, out of the solid rock, and each had its peculiar form and shade of colouring; but whilst contemplating the richness of the scene we could not long forget with what destruction it was pregnant. . . . Different corals in a dead state, concreted into a solid mass of a dull white colour, composed the stone of the Reef. The "negro-heads" were lumps which stood higher than the rest, and being generally dry were blackened by the weather; but even in these the forms of the different corals and some shells were distinguishable. The edges of the Reef, but particularly on the outside where the sea broke, were the highest parts; within, there were pools and holes containing live corals, sponges, and sea eggs and cucumbers; and many enormous cockles were scattered upon different parts of the Reef. . . . The breadth of the barrier seems to be about fifteen leagues in its southern part, but diminishes to the northward, for at the Northumberland Islands it is twelve, and near our opening the breadth is not more than seven or eight leagues. . . . An arm of the sea is enclosed between the barrier and the coast, which is at first twenty-five or thirty leagues wide, but is contracted to twenty, abreast of Broad Sound, and to nine leagues at Cape Gloucester, from whence it seems to go on diminishing, till, a little beyond Cape Tribulation, reefs are found close to the shore. Numerous islands lie scattered in this enclosed space, but so far as we are acquainted there are no other coral banks in it than those by which some of the

islands are surrounded; so that being sheltered from the deep waves of the ocean it is particularly well adapted to the purposes of a coasting trade. . . . On the outside of the barrier the sea appears to be generally unfathomable, but within, and amongst the reefs, there are soundings everywhere."

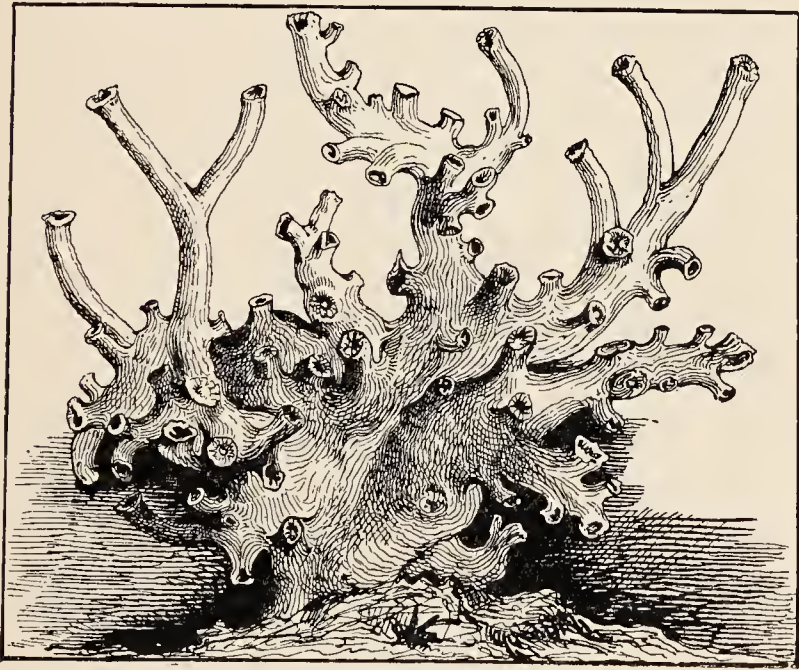
Modern travellers have little to add to the fairly accurate descriptions and conclusions of the Lincolnshire sailor. The Great Barrier Reef extends along the coasts of Queensland for over 1,200 miles, at a distance of from 20 to 100 miles from the coast; in general, from 15 to 20 miles. The foundation of the Reef is believed to represent the old coast line of Australia, for Darwin and others declare that there has been a great subsidence of the land in this region.

There are gaps in the Reef at numerous points, especially towards the south. Flinders' endeavor to sail through one of these gaps he called "threading the needle," so difficult did he find the operation. These gaps in the Reef are generally opposite the mouths of the mainland rivers which pour fresh water eastward. As the coral polyps require salt water for their life and development, we can understand why they avoid the currents of fresh water flowing toward the Reef. It is evident, therefore, that the old explanation of the origin of the gaps, however reasonable it sounds, is not to be relied upon,—namely, that the breaks in the continuity of the Reef were caused by the subsidence of the old river channels, which are, of course, opposite the present river estuaries.

We shall now consider how this great "coral reef," which has given a name to the adjacent great "Coral Sea,"

as well as how all such reefs, have been and are being formed. It will be interesting, also, to determine if possible, how long is the process which raises from the watery depths such vast areas of solid land in tracts where no land formerly was.

For a long time it was usual to speak of the creatures which construct these reefs as "coral insects." Everyone



A PIECE OF GROWING CORAL.

(The coral polyps are at the end of the branches.)

now knows that the animal which produces coral is not an insect at all, but a creature of much lower organization. It is a kind of sea anemone with a strong skeleton, and it should be called a *polyp*.

The coral-former is, within its cover, only a film of gelatinous matter. If touched, this film will withdraw

itself between its *laminae* and not return till danger appears to be past. It has no definite organs that can be detected, such as mouth or nerves or muscles. Yet this coral polyp is able to separate lime from the sea-water to build up its marvellous covering. It has been found that the film itself contains the earthy matter which in the end becomes solid rock. The polyp possesses the wonderful power of depositing, particle by particle, the lime which goes to make its shell, and which after its death persists and thus contributes its infinitesimal portion towards the massing together of a great reef. The achievements of these polyps are as marvellous as the unconscious operations of the human organism, which extracts lime from food and water and builds up bones and teeth.

A reef with a deep lagoon (a channel deep enough for a ship's anchorage) within it, and stretching along a coast, is called a "barrier reef." Most of such reefs are formed by the *Plantain Madrepore* coral-former. These polyps are very small and they work in great colonies. They are thus able to alter coastal conditions so rapidly that changes can be noticed within the space of a single lifetime. A ship passes over a well-known track and strikes on a rock not marked on the charts. She has come upon a coral island which has not yet reached the surface, but which in a few years will be named upon every map. A careful study has been made as to the rate of reef formation. A single anemone has been known to bud out and form about one pound avoirdupois of coral in one year. Accordingly, 2,000 of these polyps would in twelve months form a ton.

A certain degree of light and warmth is necessary for

coral development; so we find that reef-building corals do not thrive at a lower depth than 20 or 30 fathoms. The vast colonies of polyps begin to work in shallow waters, or just below the surface of the sea, after the subsidence of a land area. By degrees the polyps reach the limits of high water, and not being able to exist without water, and avoiding exposure to air and sunshine, they rise no higher, but spread laterally in all directions until they make a structure like an immense cauliflower on a stem. They work more vigorously at the ocean edge of the reef, where more food is available. As the edge of the reef is a beetling formation, there is deep water within a foot of the edge. So it happens that vessels which come without warning upon such a reef run the risk of being instantly wrecked. When the new reef reaches sea level, plants begin to grow upon it from the seeds which are drifted thither by wind and wave from the neighboring mainland, fertile earth having been formed on the coral rocks by drifting sea-weeds, marine worms, molluscs, and decaying leaves. Slowly then a beautiful and fruitful coral island grows up. Soon man discovers and settles in such attractive places. Bread-fruit, yams, pine-apples, mangoes, supply him with fruit.

Many coral islands in the Pacific form a large circle, with deep water close to the edge both outside and in. When an extinct volcano rears its summit near the surface of the sea, the coral-makers settle upon its crater and begin their activities. This accounts for the circular form of many coral reefs. These *atolls*, as they are called, are unusually fertile. Not only are fruits abundant there, but fish swarm in the central lake. Turtles also are plentiful, for the quiet waters of the lake or lagoon favor

the depositing of their eggs. Often both to barrier reefs and to atolls floating cocoa-nuts drift and lodge, and in time great palm-trees greet incoming sailors and invite them to rest beneath their pleasant shade. The tiny polyps, unintelligent and working blindly if you will, can change the face of nature and the plans of man.

ALL IN ARIZONA

ON A day early in July four men were travelling westward through New Mexico, all on their way to Arizona. By a strange chance they had met one another in the parlor car and had discussed their plans of travel. One was a botanist from Boston; another, a geologist from Montreal; the third, an ethnologist from Edinburgh; the fourth, a tourist from New York. Botanist, geologist, ethnologist, and tourist, were all moving towards that south-western region of the United States which gained complete statehood as recently as 1912,—the State of Arizona. Oddly enough, though bound for the same State of the Union, they were all going to different centres in that State.

“I am visiting the part of Arizona which gave the State its name,—the sandhills of the south-west,” said the botanist.

“I am curious to see those remarkable fossil trees that I have heard so much about,” confided the geologist.

“As for me,” declared the ethnologist, “I am keen on all that pertains to the pre-historic races of America, and am going to see the remains of the queer habitations of the cliff-dwellers.”

“I admit,” said the mere tourist, “that I am here to pass agreeably a brief holiday, and the Grand Canyon will probably satisfy my cravings.”

The four men became interested in one another’s projects, and they arranged to meet again at the end of

the month in Phoenix, the capital of the State, in order to talk over their fortnight's adventures.

All four travelled together till the geologist left the train at Adamana. The other three went on as far as Flagstaff, where another left the train. The remaining two were companions till they reached Williams, where the tourist started north on a branch line, while the botanist continued his journey west, and then south.

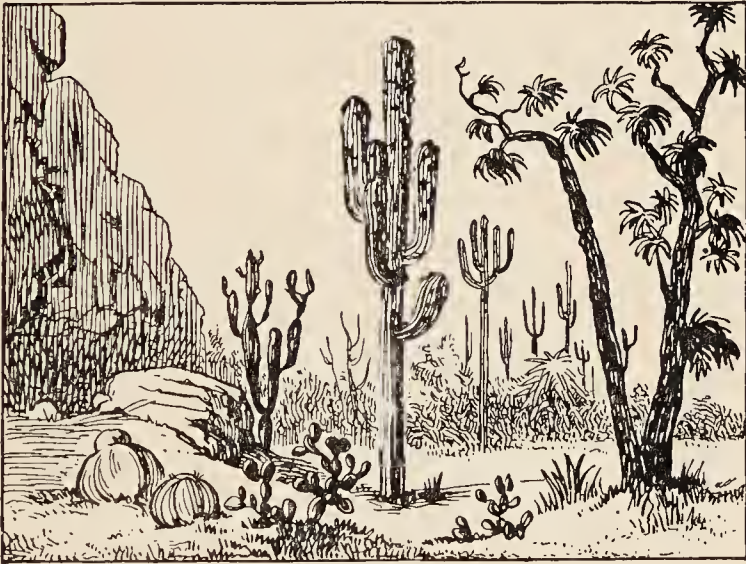
On the last day of July the four travellers came together again in Phoenix.

"Well," began the botanist, "I have seen the wide expanses of the Arizona Desert and felt the purifying winds and the stimulating sunshine. They tell me that Arizona is Indian for 'sandhills.' If that derivation of the name is correct, the south-western part of the State is very well named. Only two or three per cent of the vast area of sand is privately owned. As for heat, nothing in the Torrid Zone, where I spent last summer, can compare with the excesses of Arizona. One hundred and twenty in the shade has thinned me down somewhat since I saw you all last. However, though the days are extremely hot in the desert, the nights are pleasantly cool. And, my friends, I never before saw such gorgeous sunrises and sunsets.

"Although I came south to study the flora of this State, I could not but observe some peculiarities of the fauna. There is almost no animal life in the desert wastes. I did, of course, see some lizards and bats and ants and snakes. Yes, and tortoises are quite common. But that is about the whole list.

"It was the plant life of the desert, as I said, which I

came down here to see; and certainly the gigantic cactus and the yucca with its bayonets are magnificent. I saw a giant cactus 50 feet high. From its fluted trunk sprang many branches 20 or 30 feet long. The waxen flowers, hundreds on one plant, are a brilliant scarlet of singular beauty. You, of course, know that the cactus has been chosen as the State flower of Arizona.



GIANT CACTUS.

“The sandy regions are almost destitute of trees and bushes and flowers, so I come back with but few specimens. In my memory, though, I carry away pictures, indescribably lovely, of the flaming giants of the desert.

“During my fortnight’s travels in the arid tract, near the Mexican border, not a drop of rain fell. They tell me that more than half of the days of the year are absolutely cloudless, and that only three inches of rain fell all last year.

220 STRANGE CORNERS OF THE WORLD

"You have learned, I have no doubt, that the Government of the United States is doing much in the way of reclaiming the desert regions. The Reclamation Act was passed in 1902, and since that time, by a skilful system of irrigation, over a million acres of infertile soil has been made more or less fruitful. Alfalfa, sugar beets, melons, grow where so lately all was desolation. Some of the reclaimed land is now selling at \$100 an acre."

"I fear," now spoke the geologist, "that my story may be of less general interest. My only object in coming to Arizona was to view the Fossil Trees near Adamana. Well, I have seen hundreds of acres dotted over with the stone logs of this vast forest. Just think of a space ten miles square, covered with fallen trees turned to stone! The trees are broken into irregular lengths and scattered in all imaginable positions. The logs are from two to twenty feet long; but I saw one log two hundred feet in length and four feet in diameter. There are actually hundreds of thousands of these stone trees. 'Lithodendron Valley,' about five miles from the railway station, contains the finest specimens.

"The colors of many of the trees are surprisingly beautiful, since many of these fossil logs might be called semi-precious stones. You see chalcedony and agate, and jasper and onyx. These trees were converted to stone through the gradual replacement of the woody fibre by silica as the underground waters flowed over and around them. A small amount of iron oxides produced the brilliant hues of brown and yellow and red.

"The Petrified Bridge is a sight well worth seeing. It is an immense tree trunk lying across a canyon. The total length of this tree is a hundred and eleven feet, and



DESERT LAND.



THE SAME LAND AFTER EIGHT YEARS' IRRIGATION.

its diameter is four feet. 'Rainbow Forest' is a remarkable region in the Petrified Forest. It displays almost every possible tint of color. Near it is 'The Blue Forest,' where the stone trees are all azure of many tints.

"It is estimated that at least a million years have elapsed since these trees were alive and erect. In some great convulsion of nature,—a tornado, or perhaps a flood,—the forest went down. The water covered it for so long a period that the roots and branches rotted off. Or you may accept the other theory,—that the flood was so violent that the trees were washed up from their roots. No branches are to be found anywhere. They were all carried away by the flood; or else these trees have been swept many miles from where they grew.

"It is agreed by geologists that the trees must have been submerged for countless centuries. The region sank later into the primeval ocean and was buried by thousands of feet of water. Then, after many long ages, the submerged area was lifted once again to the light of day.

"The Fossil Forest is to-day a National Park, and it is carefully guarded from vandals. No objection, however, is made to your carrying away small specimens of the stones. A thousand horses could not stir from their firm beds any of the larger trunks. This specimen which I now hold in my hand is so hard that no lapidary's tool could polish it."

The ethnologist's turn came next, and his report was very brief. " 'The Cliff-dwellers,' you know, dwelt throughout a very wide district now included in the four States of Colorado, Utah, New Mexico, and Arizona. I

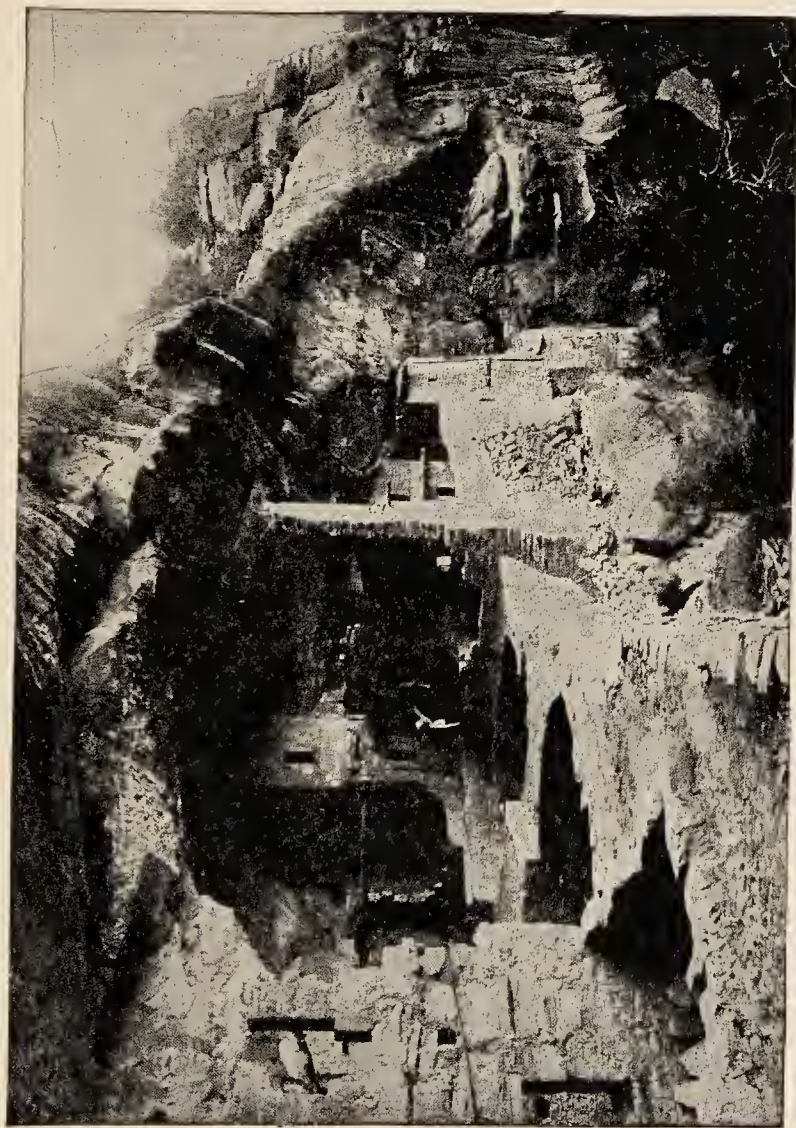
came to Arizona, as there are special features in some of the dwellings here not found elsewhere.

"The cliff dwellings take their name from the fact that these houses are perched in cave-like horizontal recesses of the almost perpendicular cliffs, which line the gorges, or canyons. These houses appear quite inaccessible from the cliff-tops above or the valley below. In one place I saw a winding staircase or ladder of foot-holes, which had been cut in the steep face of the rock, reaching from the valley below to the high ledge above. To most of the cliff houses the ascent must have been made by ladders of wood or of ropes.

"Most of the cliff houses are built in niches, situated under the beetling crags so that the dwellings were not visible from the edge of the precipice. In one place I saw a continuous range of these cliff dwellings, forming what must have been a considerable community.

"The houses of the cliff-dwellers are built of stone, some of them two or three stories high, with rectangular doors and windows, like a modern house. The Indians of the district always refer to this ancient race as 'The Little People.' This is probably because the ceilings of their dwellings were only four feet high and the doors were only two feet high.

"There is, I think, no reason for believing that 'The Cliff Dwellers' were a primitive race, now extinct. They were, it is almost certain, the immediate predecessors of the present Pueblo Indians, who dwell in villages—*pueblos*—as did the Cliff Dwellers. Indeed, the Pueblos have stone houses very much like those of their predecessors, but they do not find it necessary in this peaceful age to protect themselves by hiding in caves. The remains of



CLIFF DWELLINGS.

pottery and stone implements discovered in some of the more remote caves tell a tale of a pre-historic race of Indians. If we wish, then, to study the vanished life of the Cliff Dwellers, our study should be centred on the habits and customs of the Pueblos."

The tourist's tale of his journey to the Grand Canyon was rapidly sketched. Only a few features of it can be repeated here:

"The Grand Canyon of the Colorado is an enormous gorge in the solid rock, 200 miles long, from 3,000 to 6,000 feet deep, and from 7 to 40 miles wide at the top, tapering down in most places to less than a thousand feet wide at the bottom of the gorge.

"The walls of the Canyon rise in terraces of cliffs. These cliffs resemble huge steps, each 300 to 500 feet high, the intervening slopes being composed of softer rocks. The bed of the river is solid granite or gneiss. Each of the strata of the cliffs has an individual color, —brown, or red, or grey, or yellow, or green, according to the nature of its constituent rocks.

"The tributary streams of the Colorado come from regions which are subject to mighty floods and cloud-bursts, so that a sudden rise in the waters of the Canyon is very common. In the season of spate, or heavy flood, this river will raise its level in the narrower gorges a hundred feet in a few hours. At such times the thundering rush of the whirling waters over and through the unyielding rocks is a terrible and impressive sight. The speed of the impetuous waters is partly due to the fact that the river descends nearly a mile in its boisterous course towards the ocean. Frequently the mass of drift-wood carried down by the flood becomes temporarily lodged at



THE GRAND CANYON OF THE COLORADO RIVER.

some turn of the river, and piles up a gigantic heap more than a hundred feet in height.

"The Grand Canyon, by no exaggeration styled 'The Biggest Chasm on Earth,' lies between summits of many thousands of feet in height, the elevation often reaching an altitude of 5,000 feet. Nowhere else in the world are the layers of the earth's crust so exposed to view. In the walls of this mighty Canyon you may count seven distinct series of rocks, from the most ancient gneiss at the bottom to the buff or blue limestone near the top.

"The architecture of the Grand Canyon is magnificent, and often the conformation of the cliffs assumes startling shapes. A succession of titanic figures may be seen along the river, thousands of feet above the torrent waters,—great gables and buttresses of nature's castles, pyramids and spires and towers, immense and often grotesque in their strange forms.

"I must return again to the colors of the Grand Canyon. They are bewildering in their variety and splendidly gorgeous. If the common phrase, 'a riot of colors,' is ever appropriate, it is surely proper here. Flaming reds and glowing crimsons; yellows, saffrons and blues; the green of the shale, and the creamy purity of the limestones; patches of white throwing into relief splotches of black; all these and countless shades of these would exhaust the pigments on an artist's palette in an afternoon. There are in the two hundred miles of cliffs on each bank of the River a thousand gay color schemes in the solid rock, constantly changing with the march of the sun,—the brilliant product of the long patient ages during which Nature has been ever at her beauty-devising work amid these wonderful Arizona wilds."

THE VANISHED ISLAND

WHEN Solon, wisest of the Seven Sages, visited Egypt during his ten years of voluntary exile, he talked much with the learned priests of that country. Among the strange tales which he heard was one concerning a lost island in the Atlantic Ocean just beyond the Pillars of Hercules. This island, they declared, was as large as Asia Minor and Libya together. Near the great island, they alleged, was an archipelago of lesser islands. This region, which they knew as "Atlantis," had been the seat of a powerful kingdom 9,000 years before, and its armies had crossed the narrow strait between the island and Africa and had overrun all the coast districts of the Mediterranean as far east as Greece. Having been withstood by Athens, they had returned to their far off home in the west. The sea, so they had heard, had overwhelmed Atlantis and all its warlike inhabitants. Only a few islands of the surrounding archipelago had survived the oceanic cataclysm.

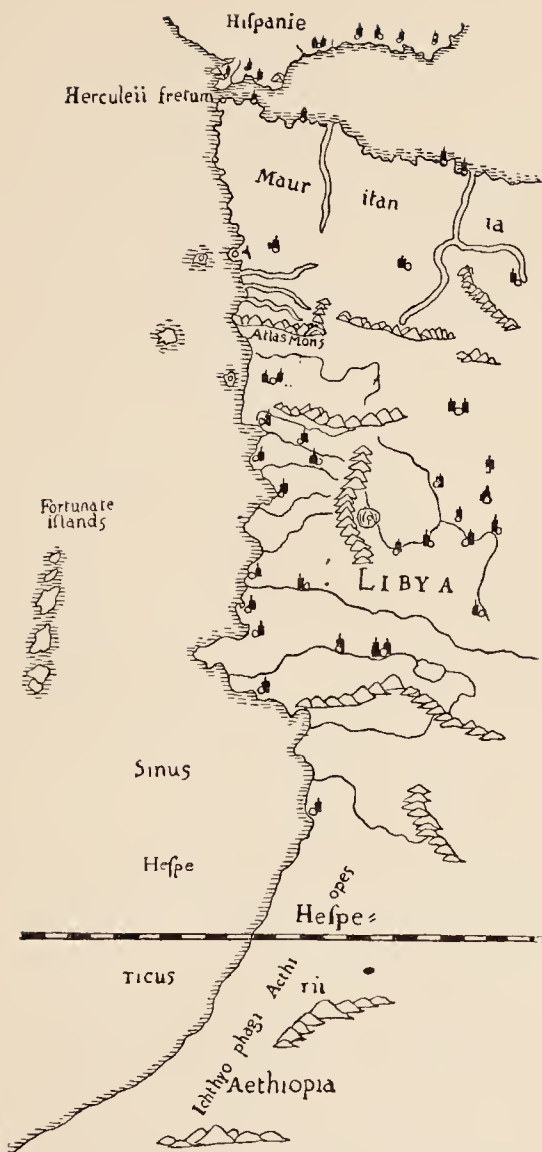
This story of the Egyptian priests you may read in Plato's *Timæus*. So impressed was Plato with the romantic tale that in his *Critias* he built up an ideal republic in the region of Atlantis and devised laws and customs for the fictitious race of islanders.

In early days the mystery of the Atlantic stirred the imagination of many nations. The "Isles of the Blest" or "Fortunate Islands" were placed by the Greeks near the edge of the western ocean. These Islands were sup-

posed to be peopled by mortals on whom the gods had conferred immortality. This earthly paradise enjoyed perpetual summer and abundance of all good things. The region is mentioned by both Hesiod and Pindar. That legend doubtless arose when some adventurous sailors returned from a voyage to Madeira or the Canary Islands. Plato's description of Atlantis does not harmonize with the topography of the Happy Isles.

The Portuguese, too, have a legendary island in the Atlantic. They call it "Antilia," or "Antillia," or "The Island of the Seven Cities." This island appears on all old Venetian and Genoese maps, almost down to 1492. The Portuguese story avers that in the 8th century the Christian refugees from Portugal who escaped the wrath of the conquering Moors fled by ship to Antilia. Their leaders were the Archbishop of Oporto and his six bishops. Each of the leaders founded and ruled a city, and the whole island became a Utopian commonwealth. It is now generally supposed that Antilia was one of the Azores, and that it had no connection with the lost Atlantis.

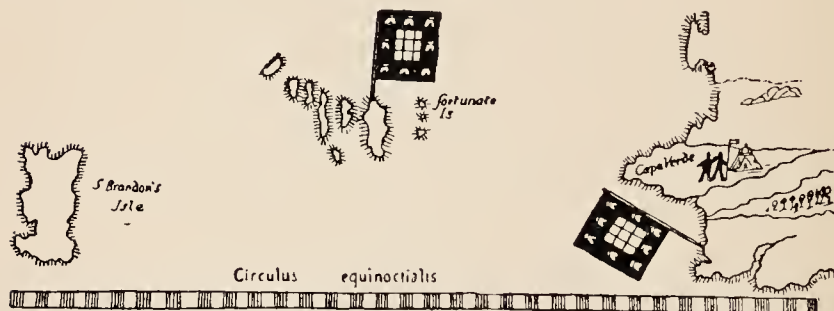
The legend of Saint Brendan, also, places his "Promised Land of the Saints" in the Atlantic, off the coast of northern Africa. This Brendan, or Brandon, of Tralee in Kerry, belongs to the 6th century. The tale of his adventure was widely circulated in both prose and verse, in Latin, French, English, Welsh, and Gaelic. St. Brendan's Isle appears on all old maps and globes down to the 18th century, situated in the region of Madeira. Columbus, in 1492, made an interesting entry in his diary regarding "St. Brendan's Island": "The people of Madeira tell us that this island of St. Brendan is farther west." Voyages of discovery were made to find the actual situa-



THE COAST OF AFRICA, FROM A MAP BY
PTOLEMY, SECOND CENTURY, A.D.

tion of the island as late as 1721. No such island could be identified. No longer, then, does the famous Irish saint lend his name to an island which has become a phantom. Like Atlantis, this island too has perished forever.

So run the legends of many centuries,—Atlantis, Isles of the Blest, Antilia, St. Brendan,—all deal with the former existence of a lost land mass in the eastern Atlantic. The legend of Atlantis was the earliest and the most persistent and it dealt with an area much vaster than that of any of the existing Atlantic islands.



ISLE OF ST. BRENDAN, ACCORDING TO A MAP OF 1492.

What has science to say of the possibility of the sinking of an island continent? Sir William Dawson, the great Canadian geologist, declares that the bed of the Atlantic has risen and sunk not once or twice but many times since the last Ice Age. Another geologist of a more recent date points out that the bed of the Atlantic is the most unstable portion of the earth's surface, since the eastern section is a vast volcanic zone.

In August, 1923, a vessel was searching for a lost cable in the region of the Azores. Twenty-five years had passed since the laying of the cable, but the company that had laid it had an accurate chart of the ocean bed at this

place. The amazement of the officers in charge of the search can be imagined when their soundings indicated that the surface of the ocean bed had risen about 2,000 fathoms, or $2\frac{1}{4}$ miles, some time during the quarter of a century. If the ocean bed can rise $2\frac{1}{4}$ miles in one convulsion, or in a series of convulsions, without attracting the attention of the inhabitants of nearby lands, the possibility of its sinking an equal distance at any time must be admitted; and the chances of the submersion of an oceanic continent during a period of ten thousand years become very great indeed.

Another search in this Atlantic region a few years ago led to an amazing discovery. A ship employed for the laying of a cable from Brest to Cape Cod was trying to fish up a broken strand 562 miles north of the Azores at a depth of 1,700 fathoms. The grappling irons drew up soil and broken pieces of rock, which plainly indicated that the bottom had once been a mountainous tract above the waters. The searchers had touched no ordinary seabottom, but a bottom of hard rocks scattered over with vitreous lava. This kind of lava can solidify into such a glassy texture only above water under atmospheric pressure. If formed at such a depth as they had sounded, the lava would have been highly crystallized. If, then, the bottom of the Atlantic 562 miles north of the Azores is covered with lava-rock such as these cable-layers found, the region, within recent geological times, must have been above the ocean surface, and must have been submerged in some great oceanic convulsion. Geologists are pretty well agreed that the change took place in the late Tertiary Period. In the Ice Age the lost continent must still have

been above water, and men from western Europe could easily have reached it in their long boats.

The lost Atlantis, or Atalantis, or Atlantica, is no longer a mere myth. The Greek legend has become a scientific truth. The size of the continent, for it was no small island, and its exact boundaries we can only conjecture.

The whole bed of the Atlantic has now been pretty accurately charted. The eyes of science have viewed and pictured "a vast panorama of mountains and valleys, of tablelands and plains, of deep gorges and lofty peaks, equalling in grandeur and in variety the land masses of the upper world." In the northern part of the basin there stretches from Newfoundland to Ireland a great plain, known as the Telegraph Plateau, so called because the earliest submarine cables were laid here in 1865 and 1866. From about the middle of the Telegraph Plateau an immense submerged continent, nearly as large as South America, stretches first southward and then westward, occupying much of the central area of the North Atlantic basin. This great submarine elevation has been called the Dolphin Ridge. As it inclines south past the Azores, Madeira, and the Canaries, it parallels the western coast of Africa, as if hinting that in days long gone it had belonged to that continent. It sweeps south beyond the equator and winds eastward, as does the coast of Africa, its long outline from north to extreme south taking the form of the letter S.

The Azores, 930 miles west of Portugal, are the culminating heights of the sunken Atlantic continent. Off the north-west coast of Africa are several groups of islands which rise like mighty terraces from the submerged plateau. These we call Madeira, the Canary Islands, and the Cape Verde Islands, the Canaries being

only 60 miles from the coast of Africa. The whole system reaches its highest elevation in the peak of Teneriffe, in the largest of the Canary Islands. That noble summit, $2\frac{1}{3}$ miles above the level of the sea, on the day of the awful convulsion lowered its proud head from five miles above sea-level to its present humbler height.

We have now seen that both legend and authentic geology speak with impressive utterance regarding a lost Atlantis. Let us hear what biology has to tell us.



CRO-MAGNON CARVING ON IVORY FROM THE BONE CAVERNS
OF DORDOGNE.

It is almost certain that the larger mammals and birds of the Atlantic islands were not imported by seafarers, but that their ancestors came in by means of a land connection or by crossing very narrow straits. When the Azores were visited in 1439, they were called Açores, or Hawk Islands, from the multitude of gigantic buzzards found there. On an old atlas dated 1385, published at Venice, some of the Azores have these names,—Capraria (Isle of Goats), Columbia (Isle of Doves), Li Congi (Rabbit Island), Corvi Marini (Isle of Sea Crows). So not only doves and crows, but also the wild goat and the rabbit flourished here long before the “of-

ficial discovery" of the Azores in 1439. These creatures are, accordingly, the direct descendants of the fauna of the drowned continent.

The reptiles of the Atlantic islands are almost entirely European in character. The lizards are those of North Africa. The slugs are those of Spain and Portugal. Sixty per cent of the butterflies and moths found in the Canaries are of Mediterranean origin. It is admitted that the ocean is an insuperable barrier to the emigration of earth-worms. But a thorough examination has shown that the earth-worms of the Atlantic Islands are not of an indigenous variety, but belong to European and African species.

We come now to the interesting question as to the presence of aboriginal man on these Atlantic islands. When the Spaniards discovered the Canaries, they found them inhabited by a race which they named the Guanchos. From a study of their skulls and bones it is almost certain that these Guanchos, now nearly extinct, belonged to the remarkable Cro-Magnon race of the Quaternary Age. These Cro-Magnons, who entered Europe by way of the Biscay region in primeval times, perhaps 20,000 years ago, enjoyed a high degree of civilization. Where they came from can only be guessed, but they probably were an offshoot from the great race of Atlantis.

In 1868, in a cave near Bordeaux, there were found three human skeletons, those of an old man, a young man, and a woman, the skull of the woman bearing the mark of a severe wound. They plainly belonged to a race now extinct, as they had the long heads of the palaeolithic age, somewhat resembling those of the African Berbers. The lost race to which they belonged has been called

the Cro-Magnon race. If those three fugitives of the Cro-Magnon Cave of Dordogne could tell us of their day, they would doubtless dispel at once all the mystery which shrouds the buried Atlantis. That mystery the seers of all ages have industriously essayed to unravel, and the poets have woven a sombre web of the lives of those hapless ones that perished in that long ago calamity, "in lost Atlantis drownèd deep." Mr. F. W. Harvey, a distinguished young poet of England, in a recent poem tells a pathetic tale of a queen and a king whose career was cut short in "that age-ago time" and who now call upon passing sailors "to peer down from their ship as they pass."

CATHAY'S MIGHTY WALL

IN THE very years when the famous Hannibal was winning his signal victories in Italy there ruled in far off China a very remarkable potentate, and there was being built in that land a public work so gigantic that even the ruins of it to-day rank among the wonders of the world. From 246 B.C. to 210 B.C. reigned in China the Emperor Ch'in, usually styled "Shih-huang-ti," that is, "First Universal Emperor." When he came to the throne in 246 B.C. he was only thirteen years old, but, juvenile as he was, his oriental precocity began to dream dreams of vast changes for his country. In particular, he vowed that no longer should savage hordes from the north and north-east invade and ravage his domains. Besides, had not a prophet of his court warned him that the fates foretold the conquest of China by raiders from the wastes and deserts of the north?

There had existed for centuries barriers of walls and fortresses to stem the tides of the invading hosts of sturdy Mongolian horsemen and of Manchurian mountaineers; but Ch'in determined that the mural defences of his country should be continuous and insuperable and should stretch from the Yellow Sea to the borders of Tibet. According to ancient records he raised an army of 3,000,000 men to ward back all attack for a period of twenty years while 300,000 builders were erecting the Great Wall. Whether or not his army was so

formidable as this and the number of his builders so great, there can be no doubt that the Great Wall is in magnitude and length the most impressive creation of man to be found anywhere in the whole world.

A hundred and seventy-seven miles east of Peking, near the city of Shan-hai-kwan, on the 40th parallel of latitude, the Great Wall begins. To this day we may see there a tablet, erected probably a few centuries ago, bearing this quaint inscription:

"HEAVEN MADE THE SEA AND THE MOUNTAINS." From this

point the Wall stretches like a great dragon along the north of China proper for 1,700 miles, although as the crow flies the eastern and western ends are only 1,100 miles apart. No obstacles were allowed to break the continuity of the Wall. Through deep valleys and over high mountains, some 4,000 feet above sea level, the structure runs. In the steepest places flights of massive steps were erected.

From the main wall branches and loops have been built in many directions to protect districts south of the wall in case breaches should be made in the major fortifications. For instance, to the west of the rich province of



EASTERN END OF THE GREAT WALL.

Chihli, the capital of which is Peking, runs a strong barrier of stone, which branches down from the Great Wall. Peking had to be made inaccessible to the northern foes (1) by the Great Wall, (2) by the western branch wall, (3) by the massive stone defences of the city itself. A very important loop from the Great Wall is that near the western end, in the province of Kansuh, which runs southwest to protect the borders of Tibet. The Great Wall terminates just west of the modern city of Suchow, at 98° west longitude. The branches and loops add 1,700 miles to the long span of the Great Wall itself.

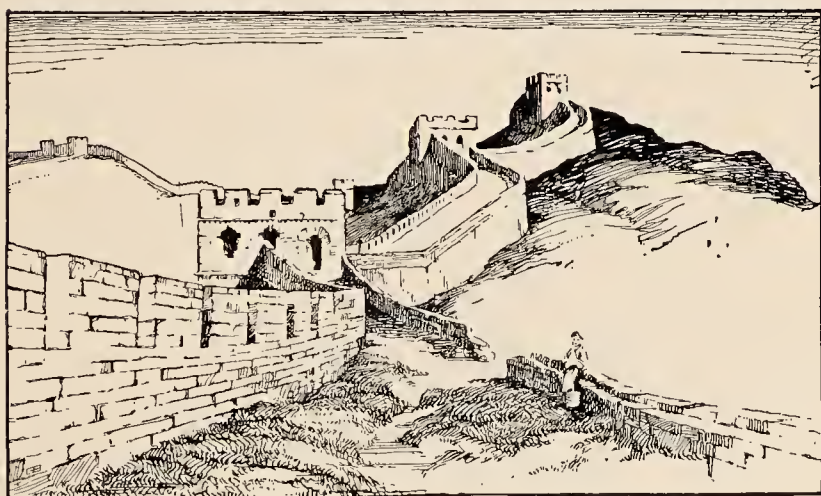
At intervals of 600 feet along all these walls stand towers, of one, two, and three storeys, with look-outs for the sentries or narrow slits in the stone-work for the archers. In many places, too, beacon-towers for fire signals may be seen.

The height of the Great Wall varies from 20 to 30 feet, the towers rising often to a height of 60 feet. The base of the wall is from 15 to 25 feet thick, and the summit is about 12 feet wide in most sections.

The wall, in all probability, was originally built of earth and boulders, only the valley bottoms and the chief passes having hewn stone or brick work. The wall as seen to-day is that which was built in the 15th and 16th centuries, in the time of the Ming dynasty, much more massive and strong than the wall of Ch'in's day.

The visitor who wishes to see a typical section of the Great Wall should go to Peking. On the north-west horizon, thirty-five miles away, the Wall can be descried. At that point, and for hundreds of miles towards the west, even to the Hwang-ho, or Yellow River, there are two walls, an inner and an outer. That part of the Wall is

still kept in a fine state of preservation. At Nankow Pass, one of the strategic points in the Wall, the huge bricks, twenty-two inches long, and the massive masonry, are astonishingly intact, for they were built to defy the tooth of time. The towers still serve as military posts of the republican armies of the new régime, although Manchuria is now, since 1907, with its three provinces,



THE TOP OF THE GREAT WALL.

a part of the modern republic, and Mongolia, part of Turkestan, and all Tibet, are subject territories of China.

The legends which have gathered about Ch'in, the great Emperor who built the Wall, are many and curious. It is doubtless true that thousands of lives were spent in the long years during which the original walls were being erected. One old record declares that the men who began the work, young and hale, ended it as grey-haired patriarchs.

Ch'in's capital was a new city, built by himself in the

northern province of Shensi. Archaeologists find that it was on the site of the modern city of Sigan-Fu, about 100 miles west of the great elbow in the Yellow River. He, of course, built there for himself a glorious palace, which with its numerous annexes covered several square miles. To know his country thoroughly, and to hold it firmly, he made frequent royal progresses to all the provinces. To facilitate his movements he improved all the roadways of the empire.

Ch'in became more and more arbitrary as he grew to full manhood. He abolished the feudal system in China and brought all the feudal chiefs to the capital to have them under direct and constant surveillance. In a fit of irritation he ordered all the historical books of the realm to be burned, so that his country's savants might not be continually quoting from old annals the records of the brave or wise deeds of ancient rulers. He abolished the title of "King," and became the first "Emperor," with the proud cognomen of Chin-shi-hwang, "The Only First." He burned alive five hundred scholars when they protested against the burning of the books.

Two legends regarding the building of the Great Wall deserve special mention:—

The line of the Wall was marked out, it is said, by Ch'in's magic horse. The beast was allowed to wander at will, and as it advanced, the architects followed and pegged out the line for the builders.

Among the natives of the north-western provinces there is to-day a common report and belief that the Great Wall was not built by men of ordinary stature, but that there were giants in the land in those days. They aver that the men were ten feet tall who performed the gigantic

labor requisite for the wonderful achievement. Indeed, they allege that bones have been found along the course of the Wall which show that these giants measured four feet below the knee.

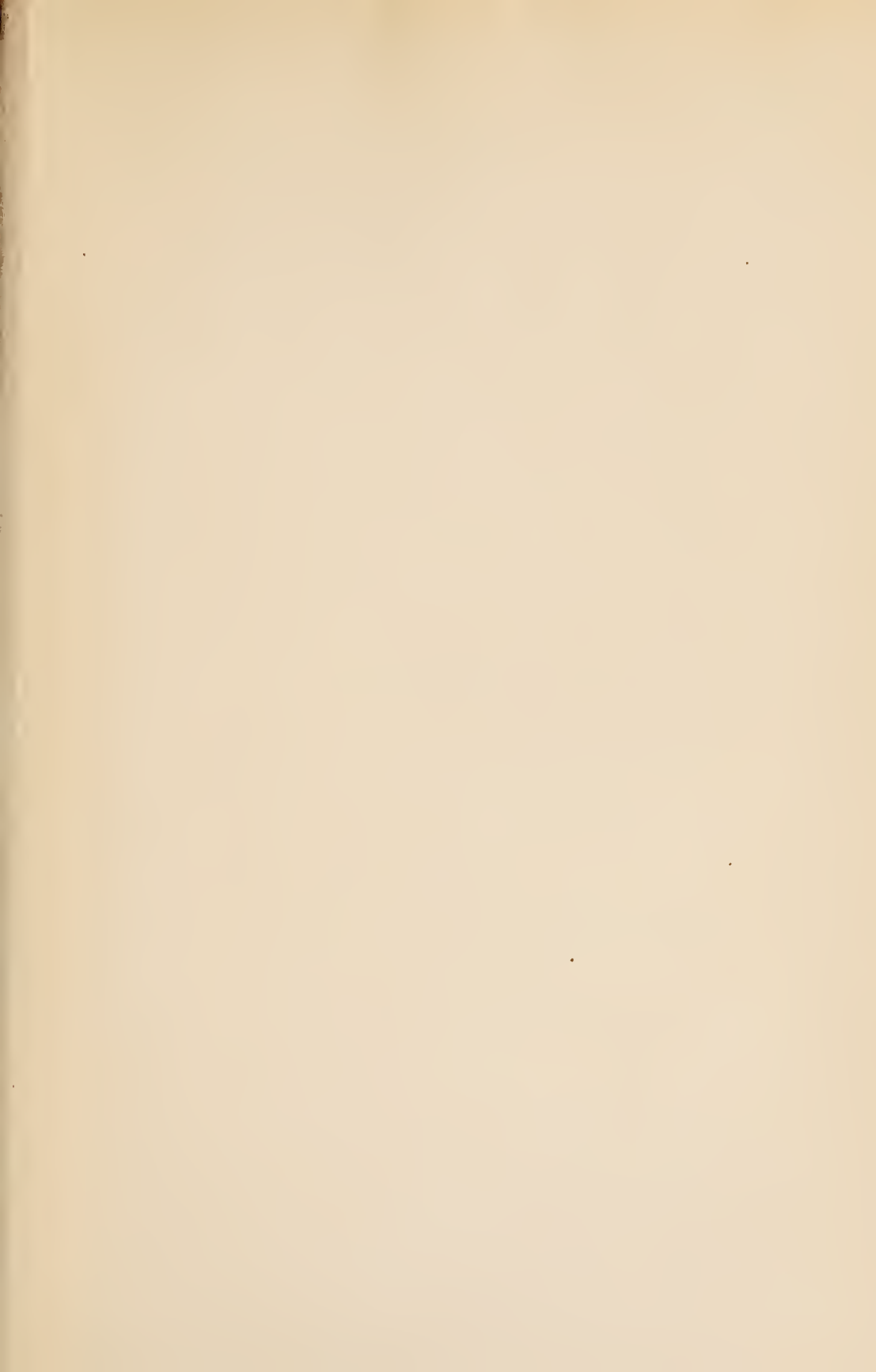
The modern Chinaman has great respect, even reverence, for every part of the Great Wall. The mortar from the Wall will, they believe, effect miraculous cures, if applied to any feeble or diseased part of the human body. They always kow-tow three times when they enter one of the ancient towers.

No description of the Great Wall would be complete without a reference to the mighty river the course of which decided, in many regions, the direction to be pursued by the Wall itself. The valley of the Hwang-ho,—the Yellow River,—is the richest and most populous lowland in the world. Nearly 200,000,000 people find their homes there. It is, indeed, the granary of China. The crumbling yellow dust which forms the soil has been brought hither by the winds from the interior tablelands during a million years. This dust, called *loess*, is in places a thousand feet deep. The rich soil produces, with light labor, prodigious crops of rice and millet and cotton.

The Yellow River for many miles flows high above the surrounding country. The silt washed along by its waters has elevated the river bed and made it necessary for successive governments to raise and extend from time to time the embankments which keep the waters within bounds. In periods of flood the river overflows and thousands of lives are lost and thousands of homes are desolated. Accordingly, one of the names of this river is "China's Sorrow." It may be asked, is there not danger of the river changing its course some day? The question is answered

by the records of many centuries. The Yellow River has actually, within the historical period, changed its course ten times, and has emptied into the ocean at different points 300 miles apart.

Before the overthrow of the Manchu dynasty in 1912 and the establishment of the Republic of China there was an almost universal opinion that, on the whole, the Chinese were a pacific people. On the contrary, the existence of the Great Wall and of over 4,000 walled cities and towns in China tells a tale of raiding and civil strife not to be matched in any other land. During the last 2,000 years there have been in China or on her borders fifty rebellions or wars against alien intruders. We cannot, therefore, be surprised at the civil wars of the present day in that unhappy land, where there is no Ch'in or Kublai Khan, mighty lords of the old Cathay, to rule the restless modern realm with an iron hand.



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